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No. 40

Nitrogen Output of Four Million Tons Foreseen in Report

Commerce Department
Says Production May
Exceed 1958 by 10%

WASHINGTON—The impetus given to ammonia production during the spring of 1959 when demand for fertilizer nitrogen was high, promises to push this year's output above the 4-million-ton mark, according to predictions made by the U.S. Department of Commerce in its monthly industry report. Attainment of the 4-million-ton mark would mean an increase of 10% or more over the 1958 output.

The report states that this production would be attained at an operating rate of approximately 85% of capacity if the Morgantown, W. Va., government plant, which has been shut down since mid-1958, is excluded. New plants or expansion of existing facilities begun or scheduled to come on stream in 1959 may add about 200,000 tons to capacity by 1960, the report said. It continues as follows:

"Several ammonium nitrate producers indicate that maximum off-season discounts were available during August with prices at \$63 ton. In each succeeding month, a dollar

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Pastureland Fertilization in Northeast Called Key to Better Plant Food Volume

By James W. Miller
Croplife Staff Writer

NEW YORK—Improving dairy profits through higher quality, more economical forage programs is the key to increased fertilizer sales in the Northeast, according to discussions heard at the Northeastern Fertilizer Conference here Sept. 24-25.

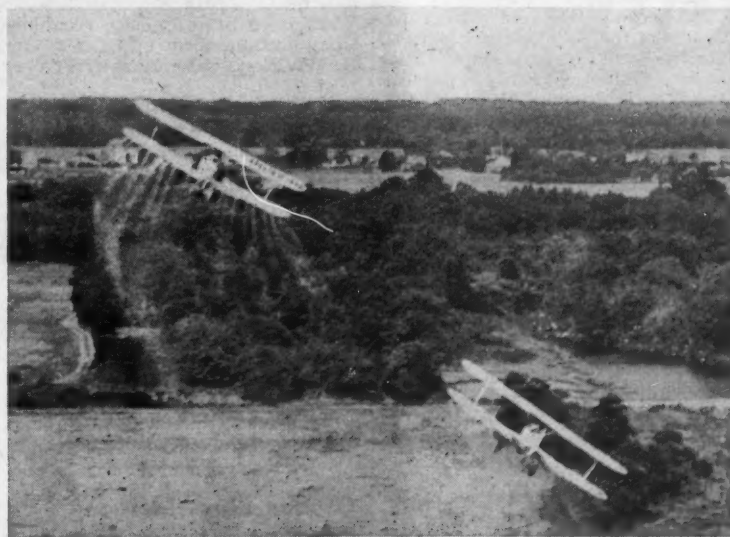
Sponsored by the National Plant Food Institute, the meeting attracted over 150 persons, probably a record for this annual meeting of fertilizer manufacturers and materials suppliers operating in the Middle Atlantic and New England states.

The panel on northeastern forage crops and livestock production was

the highlight of the program which also included a session devoted to reports on NPFI activities. Paul T. Truitt, executive vice president of the NPFI, discussed governmental affairs, and Dr. Russell Coleman, executive vice president, reported on progress of the NPFI's comprehensive research and educational program. W. H. Garman, Northeastern regional director of the NPFI, and Merle Adams, regional representative, gave a resume of conditions facing the industry in the Northeast.

Converting milk into dollars was
(Turn to NORTHEAST, page 17)

Encephalitis Deaths Spur Spray Operations in New Jersey Areas



CONTROL OF DISEASE VECTORS—Airplanes and ground application equipment have been utilized in New Jersey to control two species of mosquitoes thought responsible for an outbreak of encephalitis in four counties. In the above photo, courtesy of Rutgers University, New Brunswick, N.J., planes are swinging in to spray the wooded habitat of the mosquitoes, and not the open fields in the foreground. The operation has been well-planned and executed, with enthusiastic support of citizens in the area.

TRENTON, N.J.—Application of insecticides by both air and ground equipment was being made in four New Jersey counties last week in an effort to control two species of mosquitoes considered responsible for an outbreak of encephalitis, or sleeping sickness. The disease had caused some 12 human fatalities and numerous illnesses and fatalities among animals, particularly horses and ponies. State officials say that of the human fatalities, a half dozen were positively attributed to the disease, while strong circumstantial evidence pointed to the same cause in the other deaths.

Entomologists, state health officials and the state department of agriculture are all involved in the situation described as being near the epidemic stage. Dr. Roscoe P. Kandle, New Jersey State Commissioner of Public Health; Phillip Alampi, Commissioner of Agriculture, and Dr. Bailey B. Pepper, entomologist at Rutgers University, along with other state authorities have cooperated in the control program.

Although some airplane applicators are being used in the campaign, the larger portion of the program is carried by ground equipment including mist and fog applicators, according to Dr. Pepper, who told Croplife in a telephone interview that the areas affected include upper Cape May, Atlantic, Ocean and Burlington Counties.

Dr. Pepper said that citizens in
(Turn to SPRAY PROJECT, page 4)

'Know Your Customer Better' Theme of Southeast Meeting

ATLANTA, GA.—Admonitions to the fertilizer industry to know its customers better; to utilize fertilizer demonstrations and soil testing techniques and to instruct farmers in the economics of holding down unit costs of production were presented by various speakers during the fourth Southeastern Fertilizer Conference at the Atlanta Biltmore Hotel here Sept. 30-Oct. 1. Participating on the program

were representatives of the National Plant Food Institute, representatives of the trade, and of agricultural colleges.

Dr. E. T. York, director of the Alabama agricultural extension service, Auburn, described the efficiency of fertilizer demonstrations which, he said, illustrate the effectiveness of a sound fertilization program.

"The county soil fertility programs recently developed in the Southeast have met with marked success," he said. "The approach used in these programs is that soil fertility and soil acidity are currently the two most important barriers to more efficient agricultural production. Using better soil fertility as the theme for the program, farmers are then encouraged to take soil samples and to follow the lime and fertilizer recommendations made on the basis of these tests.

"The program seems to have caught on extremely well. Many groups other than farmers have participated. These fertility projects have proved to be excellent extension tools and in many cases have been responsible for the county agent's having reached farmers he had been unable to communicate with previously.

"They've brought positive results, too. In some of these counties, farm income has been increased in one
(Turn to MEETING, page 20)

Pyrethrum Trade Reports Increase For 1958 Season

WASHINGTON—The pyrethrum industry enjoyed a good year in 1958, according to preliminary reports from British East Africa. Both the quantity and value of flowers and pyrethrum extract from Kenya increased in 1958, the report says. Flowers totaled 40,461,000 lb. worth £524,766 in 1958 as compared to 38,793,000 lb. and £506,254 in 1957.

A new pyrethrum extract plant in Nakuru began operations in May, 1959, after trial runs in March and April.

The Kenya Pyrethrum Board reported that markets for its 1958-59 crops have been found and it is now concentrating on 1959-60 production and is attempting to develop more extensive markets in both Australia and India.

The principal destination for British East African pyrethrum material in 1958 was the U.S. Import figures in the U.S. indicate receipt of 3,569,156 lb. of pyrethrum flowers and 149,723 lb. of extract from that source. Value of the imports was set at \$1,223,415.



Earl W. Cannon

NEW POSITION—Earl W. Cannon, formerly of California Spray-Chemical Corp., has joined Moyer Chemical Co., San Jose, Cal., according to George Pierce, president of Moyer. Mr. Cannon had been with Calspray for the past 30 years. His title at Moyer will be vice president and manager of field marketing.

Storage Insect Problem Discussed at Meeting

ATHENS, GA.—Problems in maintaining quality of seed corn in storage received major emphasis of delegates attending the hybrid seed corn short course held here Sept. 21 by the University of Georgia college of agriculture and the hybrid corn division of the Southern Seedsmen's Assn.

Robert L. Robertson, extension service entomologist, told the group that Dr. W. G. Eden, entomologist of Alabama Polytechnic Institute, had estimated that insects destroy about 25% of all the corn stored in Alabama each year. Mr. Robertson added that Alabama can be considered a typical southern state in this regard.

To protect stored seed corn against insect damage, Mr. Robertson advised growers to harvest seed corn as early as possible and store in well constructed buildings which have been thoroughly cleaned. He stressed the importance of a low moisture content for stored corn as a factor in insect control. He recommended residual sprays, fumigants, protectant dusts and, particularly, frequent inspections of stored seed as important insect control measures.

Dr. John W. Hoopes Directs Atlas Chemical Engineering

WILMINGTON, DEL.—Dr. John W. Hoopes became director of the chemical engineering department in Atlas Powder Co.'s chemicals division on Oct. 1, succeeding Marshall T. Sanders who has been director of the department since its formation in 1945. Mr. Sanders was eligible for retirement under the Atlas pension plan Oct. 1, but at the company's request has agreed to remain at Atlas in the new position of technical assistant to the executive vice president, Edward J. Goett.

Dr. Hoopes joined Atlas in 1955. He was manager of the chemical engineering department's process engineering section from 1956 until 1958, when he was appointed assistant director of the department. Before coming to Atlas, he had been assistant professor of chemical engineering at Columbia University.

AUTOMOBILE FATALITY

PHILADELPHIA—Dr. Peter J. Clarke, purchasing director and assistant secretary of Rohm & Haas Co. in Philadelphia, was killed in an automobile accident near the city Sept. 16. He had served as head of the purchasing department since 1939 and had held the post of assistant secretary since 1943. He was 56.

Two Panels Highlight California Meeting

SAN JOSE, CAL.—Two panel discussions on commercial and marketing aspects affecting the agricultural chemicals industry will be featured during the 30th annual meeting of the Western Agricultural Chemicals Assn. to be held Oct. 13-14 in the Villa Hotel, San Mateo.

The first panel, scheduled for the afternoon of the second day, is entitled "Commercial Aspects of the Agricultural Chemicals Industry" and panel members will include Newton Davis, of the Shell Chemical Corp. on "Product Liability"; C. M. Stutfield of the California Spray-Chemical Corp. on "Credit Philosophy"; Justus C. Ward, USDA Pesticides Regulation Branch, on "Labeling of Pesticides"; E. C. Heckathorn of the United Heckathorn Co., on "Inventory Controls," and F. Mike Svoboda, White Chemical Co., on "Responsibilities of a Supplier." Guy F. MacLeod is panel discussion moderator.

The second panel on "Marketing Aspects of the Agricultural Chemical Business" will be composed of C. E. Cody, California Spray-Chemical Corp., on "Marketing Trends in the Western States"; A. B. Horner, Best Fertilizers Co., on "Fertilizers—Pesticide Mixes"; L. C. Glover, Shell Chemical Co., on "Granular Insecticides," and Jim R. Dutton, Plant Pest Control Division of USDA, on "Aerial Spray Programs."

Three talks will be given during the morning session. Robert R. Thompson, president of the Thompson-Hayward Chemical Co., Kansas City, will discuss "The Position of the Formulator-Distributor"; H. F. Tomasek, president of the Chemagro Corp., also Kansas City, will talk on "The Era of the Merchant," and Donald Lerch, Jr., of Donald Lerch & Co., Washington, D. C., will discuss "Winning Friends and Gaining Customers."

The first day's sessions will be devoted to a golf and bowling tournament; a directors' meeting, when new officers will be named, and a members' business meeting, when new directors will be elected.

ARKANSAS SALES

LITTLE ROCK, ARK.—Fertilizer sales in Arkansas during August, 1959 amounted to 9,070 tons, reported the State Plant Board. Most popular material was ammonium nitrate with 1,853 tons sold, and anhydrous ammonia with 1,617 tons sold. Most popular grade was 10-20-10, with 920 tons sold.



NEW LABORATORY SETUP—Model of new research center now under construction by Monsanto Chemical Co. shows how laboratory facilities will look when completed in 1961. The new structures, combined with existing facilities in St. Louis County, Mo., will provide work space for about 800 persons. Buildings in right foreground and upper center are existing structures. Contracts were awarded in September for the new center which will cost more than \$10,000,000. The new buildings were designed by Holabird & Root of Chicago in cooperation with Monsanto's research and engineering division. (Crolife, Sept. 14, page 19.)

AGRICULTURE FAIR

WASHINGTON—The United States will demonstrate its newest techniques of agricultural research, production, and marketing at the first World Agriculture Fair to be held in New Delhi, India, Dec. 11, 1959 to Feb. 14, 1960.

The United States exhibit at the fair is a joint undertaking of the Department of Commerce, Department of Agriculture, Atomic Energy Commission and the United States Information Agency. The Department of Agriculture and the Atomic Energy Commission have major responsibility for planning and developing the demonstrations and displays.

Calspray Grants \$4,000 for Forest Fertilization Tests

RICHMOND, CAL.—A research grant of \$4,000 has been made by the California Spray-Chemical Corp. to aid forest fertilization studies at Washington State College, according to an announcement by Dr. Malcolm H. McVickar, Calspray chief agronomist.

Investigation of the subject at Washington State will be made under the supervision of Dr. R. B. Bertramson, chairman, department of agronomy. First step in the project as planned will be to run so-called diagnostic tests on areas receiving different types of fertilizer treatments to determine whether testing techniques can be developed to gauge the response in forest areas to the addition of chemical nutrients.

Several lumber companies in the vicinity now have "fertility blocks" laid out in their forests and these will be available to the college researchers to augment the official test areas.

Oregon Firms Merge

GRESHAM, ORE.—Gresham Seed & Feed Co. and Jones-Frandeen Agricultural Chemical Service, both of this city, have merged and will operate as Gresham Seed & Feed Co., it was announced.

Under the new business arrangement, Ned W. Frandeen will act as general manager of the firm, which will include the retail store and headquarters at 290 NW 10th Drive. Gordon (Bud) Jones will be assistant manager and Marne Hudson, longtime members of the Gresham Seed & Feed staff, will head up the feed department.



Nate Annas

APPOINTMENT—Nate Annas has been named by Collier Carbon & Chemical Corp., Los Angeles, as district sales manager of southeastern California and parts of Arizona and Nevada. He will supervise sales of the firm's Brea Brand fertilizers and will headquarter in El Centro, Cal., reporting to Olan Genn at Collier's southern area marketing office at Santa Ana, Cal.

Idaho Test Results Reported by Specialists

MOSCOW, IDAHO—The University of Idaho made 8,300 tests on 2,500 soil samples for the 1959 crop season, Charles Painter, soils specialist of the extension service at Boise, reported. The number of samples was about the same as it was the previous year.

The summary of results showed that 92% of the soils sampled in southern Idaho were alkaline. The southern area was Adams County and counties south and east. Six percent were in the high-alkaline range not desirable for good crop growth. Northern Idaho soils were 87% acid. Only about 6% were excessively acid.

Mr. Painter said 54% of the alkaline soils and 36% of the acid soils indicated a need for phosphorus fertilizer. A possible need for potash was shown in 14% of the soils analyzed. Salinity tests indicated 16% have a salt problem. Need for sulphur was shown in 15%.

Approximately 40% of southern Idaho soils tested for organic matter had less than desirable amounts for satisfactory soil structure. About 12% were low in northern Idaho.

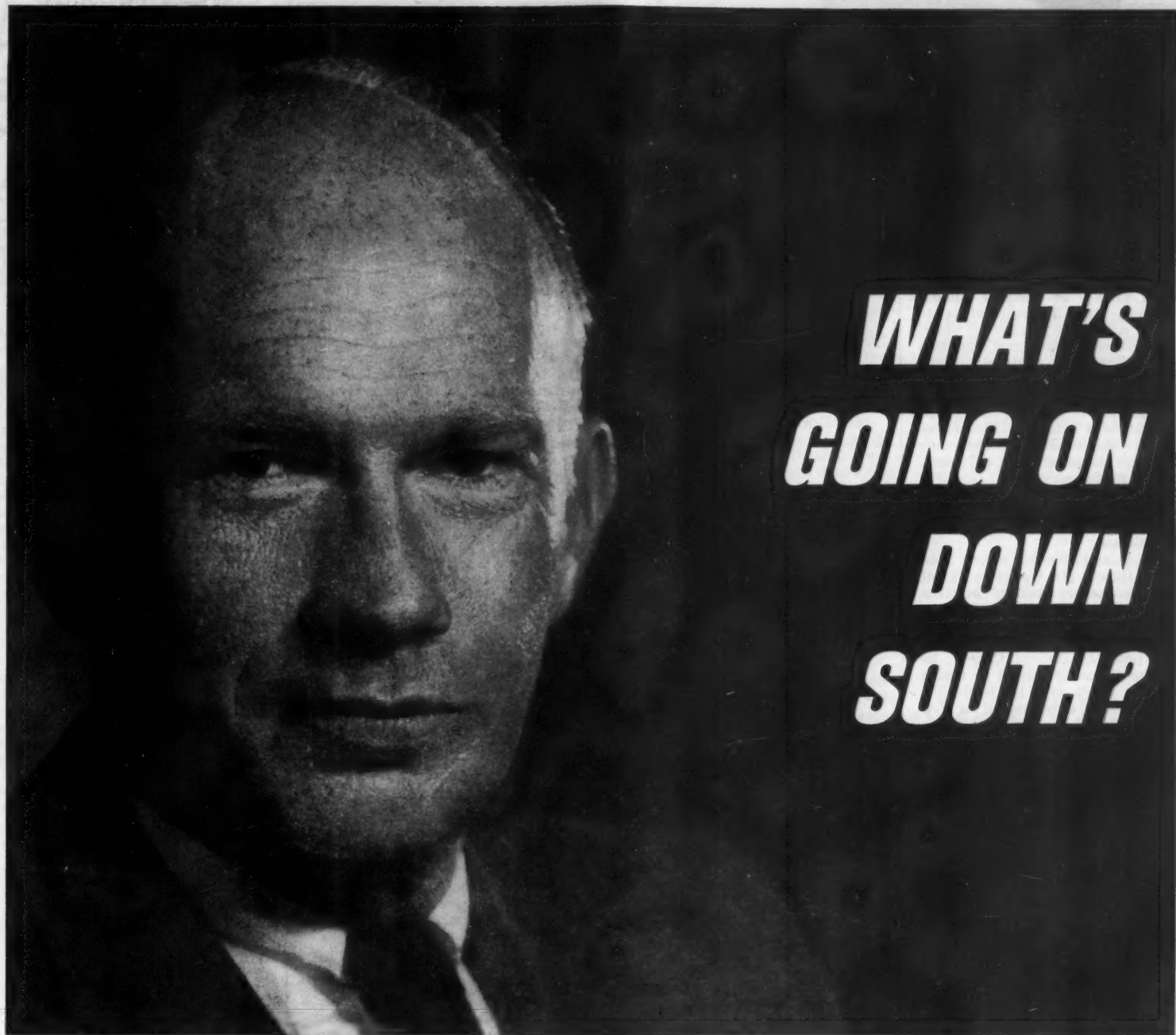
Twelve counties tested samples in laboratories operated by county agents. Twenty-eight counties used services of the university laboratory.

"The data indicates we can use a lot of phosphorus, more crop residues for building organic matter, and most of all, more soil tests to give an accurate picture of fertility of all soils in Idaho," Mr. Painter said.

Fire Threatens Fertilizer Plant

BALTIMORE, MD.—Pillings supporting a fertilizer company pier burned here, but firefighters, squirting water from land and harbor, put out the flames before there was much damage. Chief John J. Killen said 21 pieces of equipment had answered the three-alarm call to the Fertilizer Manufacturing Cooperative in the 1800 block South Clinton Street.

F. J. Weber, assistant superintendent of the company, said the fire was under a part of the pier that supports a tank of sulphuric acid. About 350 tons of the inflammable acid was in the tank, he said. A welder was patching the tank, another company official said, and it is believed that sparks fell on the wooden pillings.



WHAT'S GOING ON DOWN SOUTH?

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John D. Waugh, *Director of Advertising
Nitrogen Division, Allied Chemical Corporation*

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INSECT, PLANT DISEASE NOTES

Soybean Nematode Makes First Showing in Illinois

URBANA, ILL.—Soybean cyst nematodes were found on a farm in Pulaski County in southern Illinois, prompting state agriculturalists to warn of a possible "disastrous blow" to the Illinois agricultural economy. Illinois is the nation's largest soybean producer.

According to Stillman Stanard, state agriculture director, root specimens were sent to federal laboratories at Nashville, Tenn., and Beltsville, Md., where the presence of the nematode was confirmed.

A public hearing is to be held Oct. 8 to discuss quarantine and other preventive methods to halt the spread of the disease.

The disease has never before been found in Illinois, Mr. Stanard said, but has caused severe damage in some southern states.

The nematode was suspected to have crossed into Illinois from Kentucky, probably Ballard County, he said. The disease is carried by trucks and farm machinery. By itself, the nematode can only spread a few inches a year.

Dutch Elm Disease Suspected in Rhode Island

WESTERLY, R.I.—Three of this community's ancient elm trees were thought to be infected with Dutch Elm disease. Other trees surrounding the town's square were also suspected of having the disease.



Fewer Insect Pests Found in South Georgia

THOMASVILLE, GA.—The fall produce crop in south Georgia this year has required less spraying and dusting for insects than that required for the spring and early summer crop, according to Hudson Norman, supervisor of markets for the State Department of Agriculture.

Mr. Norman said polebeans, squash, eggplant, cucumbers, collards, mustard, turnips and sweet potatoes were moving to market soon after mid-September, and volume shipments were expected by Sept. 30.

Mr. Norman said more commercial vegetable crops and more sweet potatoes have been grown this fall in south Georgia than ever before, and he said the produce is generally of excellent quality.

He said the growers had done a good job of controlling the insects, but that it had not been necessary to do as much as had been done in some previous years. He said he found growers unable to explain this situation about insects this year.

Most of the pole beans have been grown in shade tobacco fields under the cloth used over the tobacco. Rain-fall has been good.

Cabbage Loopers Invade New Mexico Lettuce

UNIVERSITY PARK, N.M.—John J. Durkin, entomologist with the New Mexico State University extension service, warned farmers that cabbage loopers have invaded the fall lettuce crop in Dona Ana County.

All stages of worms, ranging from eggs and newly hatched loopers, to

full-grown worms, were found in some fields in the Las Cruces and Hatch areas.

This primary pest of lettuce, Mr. Durkin said, has been building up on cotton, tomatoes and other crops all summer.

Many growers in the Mesilla Valley have treated their lettuce once or twice and will probably have to continue treating it every five to seven days until cold weather slows the development of the worms.

Mr. Durkin said that once the worms are over a week old, they are very difficult to kill with chemicals. Thorough application of the chemicals is as important as the poison that is used.



Arizona Pink Bollworm Situation Called 'Good'

PHOENIX, ARIZ.—W. T. Mendenhall, state entomologist, has reported that cottonfields may not have to be sprayed next fall in the state's fight against the pink bollworm.

"The situation looks very good," he stated. "It appears we may not have to have a full spraying program although we will spray in May, June and July."

Mr. Mendenhall said the optimistic outlook was partly based on moth counts in black light traps, a test showing the extent of bollworm infestations.

Some infestations have been reported in several untreated fields in Graham County and in some fields in the Tucson area where there had been little treatment, he stated.

Heavy Tomato Fruitworm Infestation Hits Colorado

FT. COLLINS, COLO.—The heaviest infestation of tomato fruitworm since 1955 is present in tomato fields in four counties along the Arkansas Valley. Affected are tomato-growing areas of Bent, Otero, Crowley and Pueblo counties, the Colorado Insect Detection Committee reported.

This year's infestation is "comparable to that which existed in 1955," according to Dr. L. B. Daniels, chairman of the committee. Infestations in the intervening years of 1956-58 were relatively light.

Latest counts show 15.7 tomato

fruitworm eggs per 100 leaves, about eight times the 1.9 count of a year ago, Dr. Daniels said. He also noted that the Rocky Ford light trap count showed 564 tomato fruitworm moths, up sharply from activity of a year ago.

Elsewhere on the insect front, the committee found principal grasshopper activity centered along the foothills of the northern Rockies. But nowhere could the situation be termed critical, the committee said.

On potatoes in Weld County, aphid numbers were high at 23.6 adults per 100 sweeps and 86.5 insects per 100 leaves.

Garfield County reported the highest incidence of spotted alfalfa aphid, with 750 adults per 100 sweeps. Fremont County had 200 per 100 sweeps and numbers ranged from none to 200 per 100 sweeps in alfalfa fields of Pueblo, Crowley, Bent, Otero and Prowers counties.

On the Western Slope, some evidence of apple rust mite has been found on young apple trees in Montrose County. The committee reported little insect damage to apples being harvested in Delta and Mesa counties. Codling moth injury was minimal, ranging from none to one percent.

A light trap count of 2,649 gave Baca County the dubious honor of having the highest number of sugar beet webworm moths. This compared with a count of 100 at a Weld County trap, 20 in Boulder County and none in Mesa County.

The Baca County light trap also had the most six-spotted leafhoppers and corn earworms, but counts were not regarded as high.



Rot, Weevils Damage Mississippi Cotton

JACKSON, MISS.—Despite considerable boll rot and weevil damage, prospects for a good cotton yield in Mississippi remained favorable, the Mississippi Employment Security Commission reported.

The commission said farmers were using low spray equipment, snapping off rot-damaged bolls and stepping up defoliation in an effort to control the damage.

CORN ROT CAUSE FOUND

MADISON, WIS.—A new and highly virulent disease of corn said to be caused from overhead watering has been reported by Paul Hoppe, University of Wisconsin plant pathologist. His finding of a new corn soft-rot last summer on a farm near the Wisconsin River in the Lone Rock area is said to be the first such discovery. The farmer had irrigated the corn with overhead sprinklers. Later discoveries at Spooner, and reports of similar symptoms on corn at Beltsville, Maryland, and in South Carolina, all point to sprinkler irrigation as the factor favoring soft-rot.

Mr. Hoppe will describe his findings on the new bacterial soft-rot at the University's Farm Field Day at Arlington Farms, Oct. 8. He will also exhibit the latest information on the northern leaf blight of corn that has been prevalent in the state this year for the first time since 1952.

This soft-rot has never previously been reported in corn, Mr. Hoppe says, and at the time he had no evidence to trace the unidentified outbreak at Lone Rock to bacterial rot. He suspected soft-rot, however, when he noted the unusual symptoms of the dead corn. Rotting started at the base of the whorl and worked through the heart, until stems weakened and plants fell over.

University of Wisconsin bacteriologists are now working to identify the bacteria that caused this corn soft-rot. It is probably a common bacterial strain, Mr. Hoppe says, but has never been identified. Plant losses of about 10% at Lone Rock indicate high virulence.

SPRAY PROJECT

(Continued from page 1)

some of these areas are almost hysterical in their demands for action on the part of the state and local governments to control the mosquitoes responsible for spread of the disease.

Two species of mosquito are objects of the control operations. One, *Culiseta melanura*, is a confirmed vector and the other, *Culex salinarius*, is thought to be. These two pests, Dr. Pepper said, tend to stay close to the area where they are hatched, and seek shelter in houses and barns, thus preying on both human and animal populations. An added incentive for control, it was pointed out, is the presence of many valuable racehorses housed in the area.

Dr. Pepper said that the present program could not properly be termed a "crash" effort, but rather a well-planned project based on knowledge of the pest's whereabouts, its habits, and the types of insecticides most effective for its control. Being used in the campaign, Dr. Pepper said, is DDT, Malathion and BHC, with more of the former two being used. Only areas where incidences of the disease have been reported are being sprayed, it was noted.

Curiously, Dr. Pepper observed, public sentiment is overwhelmingly favorable to the spray program at this point. Many of the same people who prior to the encephalitis outbreak had angrily signed petitions and threatened court action to stop spray operations, are now demanding spray protection from the disease vectors. Many are furthermore demanding aerial spraying in the belief that it is more effective.

Late last week it was indicated that progress of the disease may be halted, and that a satisfactory kill of the offending insects had been achieved.

Dr. Pepper said that encephalitis strikes primarily at wild birds, although human beings have been known to contract the disease. However, no person is known to have been affected in New Jersey previous to the present outbreak.

However, the possibility of human involvement has been recognized by state agencies and for the past 10 years, studies have been under way and measures taken to determine the particular means of transmission of the disease to humans in New Jersey.

Dr. Edwin L. Brower, director of the division of animal industry of the state department of agriculture, has urged each year that all ponies, farm horses and race horses in the state be vaccinated. This recommendation had been made twice this year.

Pheasant flocks on state game farms are inoculated and private pheasant farmers have been urged to follow the same procedure in order to close that possible avenue of transmission of the disease. However, among the persons stricken with the disease, none have been workers on pheasant farms, according to Dr. A. Heaton Underhill, director of the division of fish and game for the state.

Dr. Kandle said cases of suspected encephalitis in New Jersey are under continuing investigation. A surveillance center has been set up in the state department of health where frequent reports from physicians and other sources are being received.

Dr. Kandle has urged people in the area to observe these control measures:

1. Prevent exposure to mosquitoes in woodland areas.
2. Use barriers such as mosquito screens, nets, and repellents.
3. Kill adult mosquitoes, particularly in houses, outhouses, barns, and chicken houses.
4. Fogging is useful where the woodland mosquitoes are prevalent.
5. Individuals should stay away from areas where mosquitoes are in close contact with woodland birds and animals.

PATENTS and TRADEMARKS

2,900,293

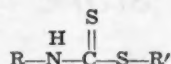
Process for the Preparation of Fungicides, Insecticides and Microbicides. Patent issued Aug. 18, 1959, to Lawrence H. Nash, Belle Glade, Fla. The process of manufacturing a new composition of matter consisting of reacting an anhydrous mixture of alcohol and a base in carbon disulfide with ammonium hydroxide, the ammonium hydroxide and the base being in less than molecular proportions with respect to the alcohol, followed by spraying the liquid product on a water soluble metallic salt in solid anhydrous state while said anhydrous salt is being mixed in a mixing device.

2,903,347

Defoliation of Plants. Patent issued Sept. 8, 1959, to Loyd Q. Boyd, Highland, Ind., assignor to Standard Oil Co., Chicago. The method of defoliating crop bearing plants which comprises applying an organic thiocyanate compound selected from the group consisting of beta-butoxy-beta-thiocyanodiethyl ether, beta-beta-thiocyanodiethyl ether, isobornyl-thiocyanate acetate, and mixtures thereof to the leaves of a plant having a crop at least nearing maturity, said organic thiocyanate compound being applied at the rate from 0.001 to 5 gallons per acre of plants and in an amount effective to cause defoliation of said plants.

2,905,586

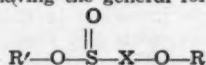
Nematocide. Patent issued Sept. 22, 1959, to Marion W. Harman, Nitro, W. Va., assignor to Monsanto Chemical Co., St. Louis, Mo. The method of agriculture which comprises applying to agricultural soil, at a concentration toxic to nematodes within the range 10-500 lb./acre, an unsaturated ester of a monosubstituted dithiocarbamic acid having the chemical structure



where R is an acyclic radical containing not more than five carbon atoms selected from the group consisting of lower mono-olefinic acyclic hydrocarbon radicals containing the double bond in the 2-position, lower alkyl radicals and lower alkyl radicals containing at least two but not more than three carbon atoms substituted by a radical selected from the group consisting of lower alkoxy, di(lower alkyl)amino and vinyl oxy radicals and R' is selected from a group consisting of allyl and chlor substituted allyl.

2,905,587

Insecticidal Compositions. Patent issued Sept. 22, 1959, to Robert J. Dowling, Naugatuck, Conn., assignor to United States Rubber Co., New York. An insecticidal composition comprising chloroalkyl aryloxyalkyl sulfite having the general formula



in which R' is a chloroalkyl radical containing 2 to 4 carbon atoms and

FREE OF WITCHWEED

ST. MATTHEWS, S.C.—Calhoun County is still free of witchweed, the unwelcome African plant pest now prevalent in several low country counties. According to O. W. Cain, county agent, a recent search by members of the Clemson Crop Pest Commission gave the county a "negative" report. Witchweed is a serious enemy to corn and several other farm crops.

1 to 3 chlorine atoms and having no chlorine atom attached to the alpha carbon atom, and X is an alkylene radical having 2 to 4 carbon atoms, and R is an aromatic radical, a powdered solid carrier, and sodium carboxymethylcellulose, said sodium carboxymethylcellulose being in amount from 1 to 50 parts per 100 parts of said sulfite, and said sulfite being in amount from 2 to 100 parts per 100 parts of said powdered solid carrier.

2,905,588

Growing and Protection of Crops and Compositions Therefor Contain-

ing an Ethynyl Ketone. Patent issued Sept. 22, 1959, to Charles R. Youngson, Long Beach, Cal., assignor to the Dow Chemical Co., Inc., Midland, Mich. In the practice of agricultural economy, the method which comprises impregnating soil with an ethynyl ketone in the amount of at least 2 parts by weight per million parts by weight of soil.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of \$25 must accompany each notice of opposition.

Montrose, in capital letters, for DDT manufacturing use. Filed Dec. 29, 1958, by Montrose Chemical Corp. of Los Angeles, California. First use in 1947.

Thuricide, in capital letters, for microbial insecticide. Filed Jan. 7,

1959, by Bioferm Corp., Wasco, Cal. First use Nov. 5, 1958.

Brestan, in capital letters, for fungicides and pesticides. Filed Jan. 29, 1959, by Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany.

Aqualin, in capital letters, for herbicide. Filed Feb. 4, 1959, by Shell Chemical Corp., New York. First use April 3, 1958.

Design, oval with word Miller in capital letters, for insecticides, herbicides, rodenticides and fungicides. Filed Feb. 12, 1959, by Miller Chemical Fertilizer Corp., Baltimore, Md. First use Feb. 1, 1938.

Design, large block capital M, with Monsanto across center, for chemical toxicants for use in making or formulating agricultural insecticides, fungicides and herbicides. Filed Feb. 26, 1959, by Monsanto Chemical Co., St. Louis, Mo. First use August, 1957.

NOW....PROMPT MOLTEN SULPHUR DELIVERIES

Radiating out from Cincinnati

This is the first of the TGS Terminal Molten Sulphur Truck and Rail Distribution Stations being set up to serve industrial areas of the country. Regular large tonnage barge shipments of Molten Sulphur from our mines in the Gulf area are keeping this Cincinnati Terminal well-stocked to meet the growing demand for Molten Sulphur in the Ohio River area.

Additional Molten as well as Solid Sulphur terminals are being considered for other parts of the country.



TEXAS GULF SULPHUR COMPANY

75 East 45th St., New York 17, N. Y. / 811 Rusk Ave., Houston 2, Texas

Sulphur Producing Units: Newgulf, Texas • Spindletop Dome, Texas • Moss Bluff, Texas • Fannett, Texas • Worland, Wyoming •

Molten Sulphur in tank cars can be delivered to any point in the States or Canada from our nearest mine or recovery plant. Barge deliveries of Molten Sulphur are available on all navigable inland waters. Solid Sulphur, as for many years, is deliverable all over the world. Large inventories at our mines assure industry it will get its supplies when needed.

Forest Fertilization Research Project Supported by NPFI

WASHINGTON—A research project on forest fertilization was initiated by the University of Georgia Agricultural Experiment Stations effective July 1, 1959, announced George H. King, director, Georgia Agricultural Experiment Stations. This project has as its objective a determination of the response of young slash pine to applications of certain plant nutrient elements and the effect of these treatments on wood quality. It is supported in part by a grant of \$2,600 from the National Plant Food Institute.

Studies will be made to determine whether the application of certain plant nutrient elements causes a modification in ring width, percentage of latewood, specific gravity, tracheid wall thickness or other wood properties.

The material for this study will come from a slash pine plantation located near Valdosta, Ga., which was planted in December, 1948. After nine growing seasons, a fertilization experiment was initiated in March of 1958, which was primarily designed to test the effectiveness of fertilizer in stimulating growth. Studies indicate that even in controlled experiments such as this one, tree-to-tree and within tree variations in wood properties may be expected to be quite large and, therefore, both stand sampling and tree sampling will be incorporated into this study. Collection of the sample material will begin after completion of the second full growing season subsequent to fertilization.

Cyanamid States Changes In Research Personnel

NEW YORK—A realignment of research scientists in American Cyanamid Co.'s agricultural division was announced by Frank S. Washburn, divisional general manager.

Dr. J. T. Thurston has been named manager of research and development; Dr. E. L. R. Stokstad, director of research in biological sciences and Dr. T. H. Jukes, director of chemical research.

The technical department, under the supervision of Dr. Thurston, has been re-named the development department and will continue under his direction.

OUTSTANDING STUDENT

PULLMAN, WASH.—Marvin E. Fischer, age 28, of Pullman, has been selected the outstanding student in the soils department of Washington State College and will receive the \$100 annual award of the Pacific Northwest Plant Food Assn. Mr. Fischer is a junior majoring in soils and has indicated his future plans are to study in soil fertility.

INSPECTOR KILLED

NATCHEZ, MISS.—Farley Halford, 52, inspector for the Mississippi State Plant Board, was killed when he was thrown from his car and was run over by the weaving auto. The right rear tire of Mr. Halford's car blew out resulting in the fatal accident.

EQUIPMENT CONVENTION

MONTREAL—The 1959 Annual Convention of the Farm Equipment Industry will be held Oct. 11-14 at the Queen Elizabeth, in Montreal, announced Kenneth E. Huddleston, director of public relations, Farm Equipment Institute.

SALES REPRESENTATIVE

TOLEDO, OHIO—Karl J. Loveland, Jr., has been named Toledo area sales representative for the Rose Terminator Co. He previously had been working out of the company's Detroit office receiving training in management and service.

LOCUSTS SCARCE

KENYA, SOUTH AFRICA—This area which grows much of the world's supply of pyrethrum for insecticides is now considered virtually clear of locusts, according to the desert locust survey made recently. Except for the possibility of small-scale breeding in Turkana and in the northwest portion of the Colony, the chance for a major infestation is small.

The report says that during June, some 89 dense locust hopper bands, spread over 30 square miles, were destroyed north of Kargi and 16 bands were cleared out of the Marsabit area. A couple of swarms were seen near Ltikchar, Kenya, during the summer and "flying swarms in quite large numbers" were reported at Loyoro. No major damage has been reported from this area which has been devastated in years past by these insects.

Georgia Fall Acreage Survey Gets Underway

ATHENS, GA.—Georgia's annual fall acreage survey was underway and the results will tell, among other things, the acreage, production and value of major crops grown in the state this year.

Rural mail carriers distributed some 10,000 U.S. Department of Agriculture acreage questionnaire cards among Georgia farmers. Cards were to be returned promptly to the mail carrier for forwarding to the Georgia Crop Reporting Service at Athens. Information from this survey will be summarized and sent to the USDA's Crop Reporting Board in Washington.

The Crop Reporting Board will issue its Annual Summary on Crop Production which will show whether the production of feed grains, food grains, oil seeds, fiber and sugar crops is above or below last year's over-all record.

ASSISTANT PURCHASING AGENT

MIDLAND, MICH.—Donald B. Black has been named assistant purchasing agent for raw materials for the Midland division of the Dow Chemical Co., announced M. E. LeFevre, director of purchasing. Mr. Black succeeds E. C. Hawkins who has entered private business. Mr. Black has been with Dow since 1941. He moved to his new position from chemicals sales where he was on special assignment. Prior to this he was supervisor of fine chemical sales. From 1942 to 1944 he was assigned to Dow's Washington, D.C., office serving as liaison with the government.

DUSTER KILLED

SACRAMENTO—Lewis Zack, 36, a crop dusting pilot for many years, was injured fatally near Taft, Cal., when his aircraft stalled and flipped over. A resident of Corcoran, Cal., Mr. Zack died in a Taft hospital shortly after the accident.

Take those big preseason savings on LION® E-2 now!

*It's the one and only ammonium nitrate
you can safely store for big spring markup
and extra profit! Lion E-2 is free-flowing
when you get it...free-flowing when you
sell it...no matter how long you store it!*



NO CAKING... GUARANTEED. Lion E-2 prills won't break down, crumble or cake under the heavy weight of stacking in shipment or storage. E-2 is free of dust and fines... not affected by extreme temperature changes or humidity. You and your customers can buy now, store safely until used. Guaranteed storage-stable.

TAKES LESS STORAGE SPACE. Lion E-2 has the greatest density of any ammonium nitrate on the market. It's less bulky... takes 20% to 25% less storage space. It saves you needed floor area. It isn't necessary to spread out E-2 in smaller stacks like old style forms of ammonium nitrate. With E-2 you stack higher utilizing all available storage area, without fear of caking.

EASY-TO-HANDLE BAGS. Lion E-2 multiwall bags are specially coated with Monsanto Syton®—the antislip agent that lets you stack Lion E-2 higher... move it faster... handle it easier. It helps you save time, work and space... reduces material losses through breakage due to slippage.

NEW LION E-2

Always stores...

Always pours



MONSANTO CHEMICAL CO.
Inorganic Chemicals Division
St. Louis 66, Missouri

Monsanto

Calspray Appoints Southwest Agronomist

RICHMOND, CAL.—The appointment of Francis R. Utermohlen as a California Spray-Chemical Corp. district agronomist in the Southwest has been recently announced jointly by Dr. Lemac Hopkins, district manager in the southwest, and Dr. M. H. McVickar, chief agronomist of California Spray-Chemical Corp.

Mr. Utermohlen joined the company on Dec. 1, 1955, previously filling the position of sales representative, merchandising sales, in Whittier, Cal. In the new position he will be working out of the Phoenix, Ariz., district office. Dr. M. H. McVickar, formerly with the National Plant Food Institute, is in charge of Calspray's agronomy program.

Born in Wheeling, W. Va., Mr. Utermohlen received his master's degree in agronomy from Ohio State University in 1952. While attending

Ohio State University he received a teacher's assistantship and specialized in turf grasses.

Two Dusters Die

LITTLE ROCK, ARK.—Two crop dusting pilots were killed in recent cotton field dusting accidents in Arkansas.

They were Donald Bloom, 30, of Norwalk, Cal., who died Sept. 19 in a crash near Dumas, and Eddie Pates, 40, of Indianapolis, Ind., who was killed near Wynne on Sept. 16.

NEW SALES OFFICE

NIAGARA FALLS, N.Y.—On Sept. 23, the Eastern Chemical Division and the Durez Plastics Division of Hooker Chemical Corp., Niagara Falls, jointly occupied offices in the recently remodeled Erlanger Building, 120 Delaware Ave., Buffalo, N.Y., opposite the Statler-Hilton Hotel, announced John S. Coey and Alfred W. Hanmer, sales managers of the two divisions.

SALES REPRESENTATIVE

TOLEDO, OHIO—Karl J. Loveland, Jr., has been appointed Toledo area sales representative of The Rose Exterminator Co., a pest-control firm. Mr. Loveland, a graduate of Ohio State University, was previously in sales promotion work for Durkee Famous Foods two years and later with Western & Southern Life Insurance Co. in Toledo. He has been working out of Rose Exterminator's Detroit office receiving training in management and service.

ASSOCIATION ORGANIZED

WILMINGTON, DEL.—The Delaware Pest Control Assn., composed of 25 operators in the pest control business, has been organized to help police the industry through education. The new association will seek to promote ethical practices and foster research and the social and commercial well-being of the industry.

Pent-a-vate Names New Research, Development Head

LINDSAY, CAL.—Dr. John W. Yale, Jr., former plant pathologist with Union Oil Co., and Olin Mathieson Chemical Corp., has been named manager of research and development for Pent-a-vate, Inc., announced Ralph Dikenson, Pent-a-vate president.

Dr. Yale will be located in Lindsay where a new Pent-a-vate soil conditioner process plant and laboratory are being built.

Ten Acres Donated for Boll Weevil Laboratory

JACKSON, MISS.—Ten acres of Mississippi State University campus has been donated for a federal boll weevil research laboratory, the Mississippi State College Board revealed.

The college board approved a site near the entrance of the campus. The federal government can establish such a laboratory if the state legislature approves.

To Help Investigations

FRESNO, CAL.—The Federal Aviation Agency (FAA) and the Civil Aeronautics Board (CAB) have approved the participation in agricultural aircraft accident investigation by designated safety committee members of the California Agricultural Aircraft Assn. (CAAA).

The CAAA, and its safety committee, have been working to set up the program designed to materially reduce the number of aircraft accidents in the industry.

Meeting Cancelled

SALEM, ORE.—Cancellation of the 9th Annual Chemical Applicators Short Course, scheduled in January, is announced by Ray Kelso, Oregon state department of agriculture herbicide supervisor.

This decision was made at a meeting here of the State Department of Agriculture representative along with those from Oregon State College and representative air farm sprayers and dusters.

Massachusetts Farming

BOSTON—Massachusetts agriculture has become a whopping business. It is leading New England in the size of its fruit crop, and in a growth of truck gardens, greenhouses and nurseries. With \$169,457,000 in cash receipts for farm commodities, it is running second only to Maine, generally accepted as the big rural state of the six New England states.

SECOND QUARTER GAIN

SALEM, ORE.—More fertilizers and agricultural limes were sold in Oregon in the second quarter of this year than in the same period in 1958, but sales of agricultural minerals lagged. Inspection fee reports to the State Department of Agriculture showed second quarter fertilizer sales this year to be 76,174 tons compared with 74,811. The lime sales at 14,577 were up 4,345 tons while the 2,663 tons of farm minerals sold were down 1,867 tons from the same 1958 quarter. Totals on tonnage for the first six months of this year: Fertilizers, 137,854; limes, 43,328; minerals, 7,603.

NJVGA CONVENTION

WASHINGTON—The 25th anniversary will be observed by the National Junior Vegetable Growers Assn. with special programming during the association's annual convention at the Hotel Roosevelt here Dec. 6-10. Dr. L. C. Gibbs of the U.S. Department of Agriculture and his committees are organizing a full program of activities to attract a record attendance on the part of NJVGA members, their adult leaders and friends.

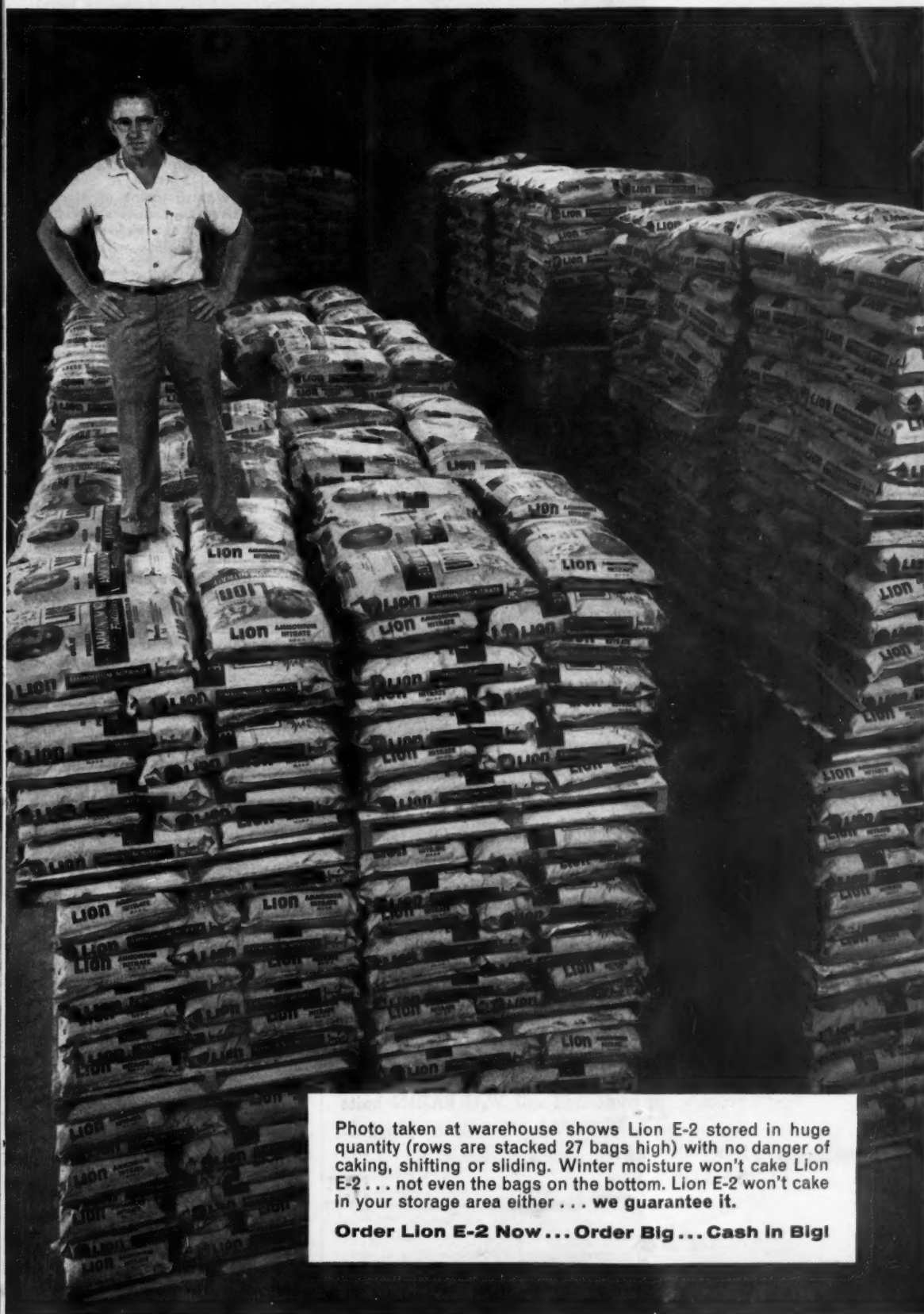


Photo taken at warehouse shows Lion E-2 stored in huge quantity (rows are stacked 27 bags high) with no danger of caking, shifting or sliding. Winter moisture won't cake Lion E-2... not even the bags on the bottom. Lion E-2 won't cake in your storage area either... we guarantee it.

Order Lion E-2 Now... Order Big... Cash In Big!

Extensive Soil Testing Is Aim Of NPFI Project

NEW BRUNSWICK, N.J. — Community-wide participation in soil testing campaigns is the aim of a project sponsored by the National Plant Food Institute and being tried in two counties in the Northeast.

Merle Adams of Franklin Park, N.J., northeast representative of NPFI, described details of the thorough-going plan first introduced in Columbia County, Pa., and then in Chautauqua County, N.Y., during a talk at the Rutgers University Fertilizer Conference, Sept. 17.

He told manufacturers and dealers that NPFI is putting a great deal of effort into the tryouts of the "intensified county soil testing project." The project focuses on soil testing, Mr. Adams said, because in many cases a farmer's fertilizer prac-

tices are influenced more by a soil test report than by any other factor.

Also, Mr. Adams continued, soil testing is one of the best contacts the extension service has with the farmer. After this first contact the farmer usually can be persuaded to adopt other approved practices.

He filled in some details of the plan to illustrate its depth. For example, figures are compiled for the project to show present yield and income from specified crops along with figures suggesting what yield and income could be with recommended use of nutrients.

Such information is presented not only to farmers, but also to other segments of the community that stand to benefit from increased farm prosperity. The result is an awakening of interest among bankers, businessmen, chambers of commerce and others who then do some promotion on their own to put across the soil testing idea.

If the two pilot projects turn out

well, they'll set the pattern for similar attempts in the Northeast, according to Mr. Adams.

In his remarks welcoming the group to Rutgers, Dr. Ordway Starnes, associate director of the experiment station, invited consideration of a state or regional organization of fertilizer industry men. Such a group could help guide the future research of the station, he said.

William F. Megitt, Rutgers farm crops researcher specializing in weed control, questioned if weed control chemicals are being applied early enough to do as much good as possible. He has noted that weeds up only 2 or 3 in. do considerable damage besides wasting fertilizer.

Effects of weeds can be offset to some extent by keeping up the fertility, the researcher pointed out, but it's better not to let them get started. In his opinion, pre-emergence treatment is insurance and post-

emergence is dealing with an emergency.

Black plastic sheets used to evaluate evaporation losses from the soil resulted in significant increases in yield and quality, another Rutgers scientist reported. Dr. Nathan A. Willits, assistant professor of soils, said he found a 50-crate advantage in cantaloupes grown in a mulched area. The mulched area used 4 in. of water and the unmulched, 16 in.

Corn ears were heavier and plants were taller and greener on mulched than on unmulched areas. Also, the corn matured earlier on mulched soil.

Many soil test calibration tests are being continued over the state to improve soil test recommendations, reported Dr. Roy L. Flannery, soils researcher at Rutgers. These are being made in vegetables, field crops and nursery crops growing on many types of soil.

Ernest G. Christ, extension fruit specialist at Rutgers, told the group how one south Jersey fruit grower has mechanized application of liquid fertilizer to such an extent that he can fertilize 50 acres of trees in five hours. Constant pressure from the pump on the power take-off and careful calibration insure efficiency of the method.

Research in the foliar feeding of ornamentals is turning up some practical suggestions for nurserymen, reported Edward F. Schneider of the Department of Horticulture. Lime in a urea spray increases the rate at which urea can be applied to azaleas without injury, he said.

Early tests determined that no more than 3 lb. of urea could be used to 100 gal. of water without causing injury. When lime was added at the rate of 2½ lb. to 100 gal., the urea concentration could be increased to 10 lb., but Mr. Schneider gave no reason why this was so.

Recommendations are being worked out for a combination of ground applications and foliar sprays for varying soil types. Work is in progress also, Mr. Schneider reported, on application of urea with insecticides and fungicides.

New Jersey's vegetable growers have a cash return of about \$350 an acre, putting them ahead of other classes of farmers in the state, and they are also the biggest users of fertilizers. But Dr. George A. Taylor, vegetable research specialist, reported that some of the state's best growers are running into trouble because they use more than they should.

Too much potash, for example, leads to boron deficiency and other troubles. Tomatoes, celery, lettuce and other crops suffer from an imbalance of nutrients.

The first application of fertilizer to a pasture may show little or no response, noted Dr. Robert W. Duell, research specialist in the farm crops department. The theory explaining this is that soil organisms take the nutrients and keep them from the plants.

Only a few of the many organic wastes resulting from manufacturing processes in New Jersey are potentially useful for improving farmland, according to Dr. Stephen J. Toth of the soils department. Many are too expensive to haul more than a short distance because of high moisture content.

However, the future possibilities of using sewage sludge, poultry manure and properly conditioned garbage are being studied.

Dr. William J. Hanna, also a soils researcher, explained how soil test results are being made a part of the record to improve the usefulness of recommendations.

Dr. Stacy B. Randle, state chemist at Rutgers, was in charge of arrangements for the conference.

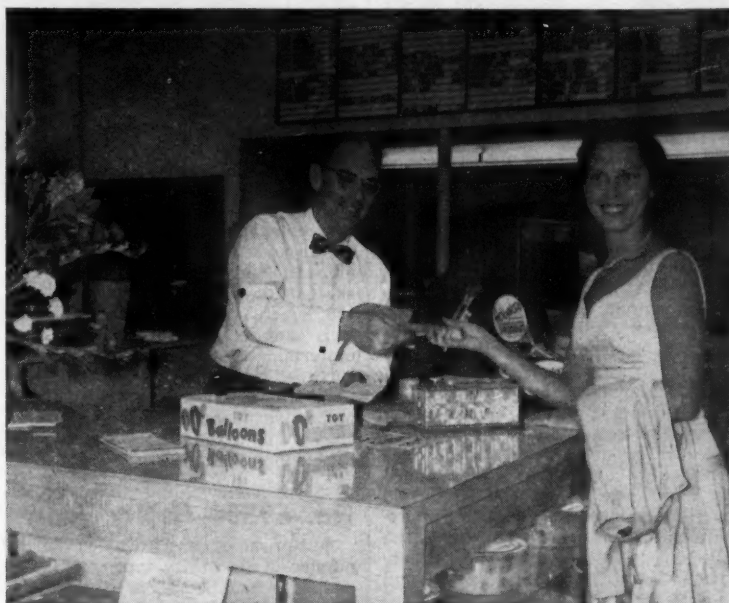


Dealers and formulators agree DETHMOR® WARFARIN makes rodent baits more effective and more profitable.

Eleven years of farm magazine advertising have established WARFARIN as the world's most famous rat and mouse killer. Tasteless, odorless, painless... WARFARIN is economical and completely effective. Rats never become bait shy or build tolerance. It's safe, too, ... won't harm children, pets, or livestock when used as directed.

Feature, promote and sell WARFARIN baits now... while WARFARIN's national program is in full swing!

PENICK
Farm Chemical and Insecticide Division
S. B. PENICK & COMPANY • 100 CHURCH ST., NEW YORK 8 • 735 W. DIVISION ST., CHICAGO 10



FRANK POE, JR., of Poe's in Coral Gables, Fla., presents a customer with a free gardening tool during its recent grand opening.



A POPULAR innovation at the grand opening was a coffee and refreshment bar. Here a hostess dishes up a hot cup to a customer.

SUCCESSFUL PROMOTION

Valley Mart, garden supply store in Baltimore, successfully promoted the sales of fertilizer during the fall season with a home service program designed to provide home owners with weed and grub control as well as fertilizer.

During the fall season the firm offered to apply a complete and long lasting organic fertilizer plus a grub killer, thus eliminating mole problems. Next spring Valley Mart will again apply the complete fertilizer plus 2,4-D to control dandelions, plantains and other broad leaf weeds.

Valley Mart promoted the offer with newspaper advertising and other media aimed at stimulating phone calls for the home service. The store used this selling theme: "We can Fertilize Your Lawn For Less Than You Can Buy The Fertilizer."

The promotion was reported to have given sharp impetus to fertilizer business during the fall season.

Drive for Fall Fertilizer Sales Pays Off in Texas

By RUEL McDANIEL
Croplife Special Writer

Ranch & Home Products Co., Galveston, Texas, has increased fertilizer volume and expanded its normal fertilizer-selling period by making a special drive to induce customers to use more fertilizer during the fall and early winter, according to A. F. Panfilli, manager.

"Down here, particularly, fertilizers ought to be used for specific jobs in the fall as well as in the spring," Mr. Panfilli explains, "and by calling this to the attention of major prospective users, we have been able to increase our volume and add another two months or so to our normal fertilizer selling season."

The company concentrates on a few definite prospects in pushing fertilizers for fall, prospects that not only logically should use fertilizers in this season but are important enough to buy in ton lots.

Among the users the company sells regularly for fall use are refineries and chemical plants which maintain large park areas and extensive lawns as a part of the grounds; country clubs with golf courses and extensive clubhouse grounds; public schools; custodians of stadiums in the area; baseball parks, and the owners of large private estates.

"Any individual, organization, company or public institution which has

extensive grounds is a good prospect for fall fertilizers," Mr. Panfilli points out. "We simply call on the people responsible for maintaining these grounds, point out the advisability of fertilizing in the fall for better and earlier spring lawn growth."

Fortunately for the company, most owners of such grounds and lawns already have had soil analyses made and know what fertilizers to use. However, whenever the company finds a prospect who does not know what is needed, it has an analysis made for him to be sure before recommending a specific fertilizer.

In order to meet the needs of all customers, the company stocks five major lines of chemical fertilizers.

"We find this necessary for best results," Mr. Panfilli points out, "because our customers own a wide variety of soils and their fertilizer needs vary greatly because of a diversity of growing needs."

Although fertilizer business in the company's trade area is limited because it is not an extensive farming section, the management maintains a profitable volume of about 250 tons annually by concentrating on the few farmers, particularly those growing watermelons, the

(Turn to FALL SALES, page 11)

Florida Dealer Prospers With Forward Approach

By PORTER V. TAYLOR
Croplife Special Writer

The business axiom that a company always moves either forward or backward has been the byword of the father and son team operating Poe's at Coral Gables, Fla.

The firm was founded in 1945 with 1,350 sq. ft. of floor space at what was then a crossroad intersection at LeJeune Road and U.S. Highway No. 1 on the outskirts of Miami and Coral Gables. At that time the name was Poe Supply Co. and the business was primarily that of supplying farmers with fertilizers, seeds and feeds. Frank Poe, Sr., had 35 years of experience in the fertilizer business and by 1948 a thriving trade had been built in this field. Poe Supply Co. had their own brand name, Poe's Tropic Grow, in a special blend of fertilizer made according to Mr. Poe's own formula. They also had their own

brand of insecticides for chinch bugs, ants and other insects.

However, by 1950 farmers were moving farther out and the city was getting closer. Instead of waiting for business to decline Poe's tripled their floor space to 4,275 sq. ft. and added a line of hardware and home garden supplies. The store's volume doubled.

"We became almost—but not quite a department store," says Frank Poe, Jr., "but we maintained our reputation by holding steadfastly to quality merchandise. We held to our own brand of 40% organic fertilizer and we stood behind our tools and appliances replacing without question anything that did not give satisfaction."

With an ever increasing volume, Poe's has just completed their second expansion now offering a completely new 10,450 sq. ft. store designed for

(Turn to APPROACH, page 12)



DISCUSSING a new product is Roy D. Metzger, outside salesman, and A. F. Panfilli, manager of the Ranch & Home Products Co., Galveston, Texas.

WHAT'S NEW

IN PRODUCTS • SERVICES • LITERATURE

To obtain more information about items mentioned in this department simply: (1) Clip out the entire coupon in the lower corner of this page. (2) Circle the numbers of the items of which you want more information. Fill in the name and address portions. (3) Fold the coupon double with the return address portion on the outside and fasten the edges with a staple, cellophane tape or glue. (4) Drop in the mail box.

No. 6958—Nitrogen Pamphlet

Commercial Solvents Corp. has prepared an informative pamphlet describing the function of nitrogen in supplying the needs of soil bacteria. The folder is 3½x6½ in. so it may be placed in envelopes for mailing to customers. CSC makes the folder available to dealers, and there is a space for imprinting dealer's name on back. The literature is appropriate for fall fertilization schedules and describes the aspects of the firm's "Hi-D" ammonium nitrate product. Copies of booklet are available by checking No. 6958 on the coupon and mailing.

No. 6962—Information On Spreader

A folder and price sheet on the Tyler Spreader is available from the Tyler Manufacturing Co. The folder contains a drawing of the fertilizer spreader in use, plus photographs and construction features. The price sheet contains price information on all of the firm's models plus prices on optional equipment. For copies of the folder and price sheet, check No. 6962 on the coupon and mail to this publication.

No. 6961—Lining Materials Data

Gates Rubber Co. announced the availability of a data sheet entitled "Corrosion Resistant Characteristics of Rubber and Plastic Lining Materials." The sheet contains revised tables showing the temperatures of

various corrosive solutions that each Gates Tank Lining stock can withstand, the company said. For more information, check No. 6961 on the coupon and mail to this publication.

No. 6959—Combination Spreader

Gaddis Bros. Manufacturing Co., Inc., has announced the Model 100 "Dual-Purpose Combination Spreader." The unit features a triple drive fan assembly incorporating a two-speed transmission, cab-controlled, allowing simple shifting for wide or narrow spread applications of lime and fertilizer, whichever is desired.



Two 20 in. diameter distributor fans have built-in slip clutch drive arrangement which eliminates all chain and sprocket drives, the company says. The 34 in. conveyor drag chain is driven by a 50:1 worm gear drive case with a 2 in. drag shaft driving 12 tooth steel conveyor drive sprockets. The 50° sloping sides along with the wide conveyor eliminate bridging of materials and allow self-cleaning of unit, the company says. For more information, check No. 6959 on the coupon and mail.

No. 6960—Weed, Brush Killer

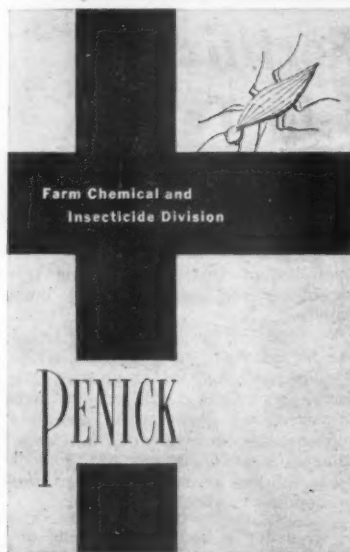
A weed and brush killer developed especially for control of deep-rooted weeds and weed trees has been introduced by Allied Chemical's General Chemical Division. Called "Urab," the herbicide is effective against scrub oak, wild hickory, sassafras, poison sumac and other weed-trees, the company said. Also listed by the company as being controlled by the product were trumpet vine, briars, cattails, Canada thistle and all types of brush. The killing ingredient in "Urab" (3-phenyl-1, 1-dimethylurea trichloroacetate) is soluble in water. The product is not recommended for use where the roots of desirable plants extend and professional or experienced operators should apply, the company said. For more information, check No. 6960 on the coupon and mail.

Also Available

The following items have appeared in previous issues of Croplife. They are reprinted to help keep dealers on the regional circulation plan informed of "What's New."

No. 6957—Farm Chemical Catalog

S. B. Penick & Co. has issued a 40-page catalog covering the products of the company's farm chemical and insecticide division. Detailed information is presented on product applica-



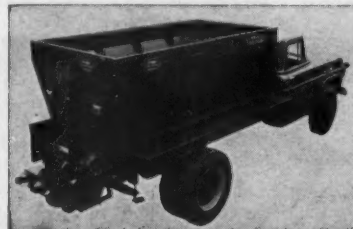
tions and the company's research and production facilities are illustrated. Copies of the catalog are available by checking No. 6957 on the coupon and mailing to this publication.

No. 6956—Tolerance Folder

A wallet-size agricultural chemicals tolerance folder, giving limitations of days prior to harvest, has been announced by United Heckathorn. The new folder is revised with up-to-date tolerances including the newer pesticides, the company says. Copies of the folder can be obtained by checking No. 6956 on the coupon and mailing to this publication.

No. 7649—"New Leader" Spreader

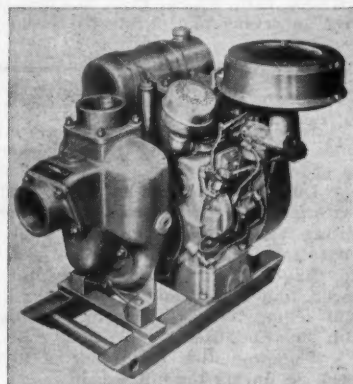
Highway Equipment Co. announces the New Leader L-72S Spreader with extra steep sloping sides (about 60°) designed to haul and spread material of a damp and dense consistency. In addition to the steep sides and formed contour for better flow,



the company says the equipment features laterally reinforced end-gates. A high carbon steel drive shaft in the conveyor gear case turns the 30 in. conveyor chain. Twenty inch spinners uniformly distribute material, the company said. The spreader is available in four different body lengths from 9 ft. to 15 ft. with respective capacities from 5.2 to 8.8 cu. yd. For details check No. 7649 on the coupon and mail.

No. 6953—Utility Pump

Self-priming centrifugal "Flomax" pumps of the utility type, have been added to its line of centrifugals, rotaries and self-primers by Marine



Products Co. This new series of pumps was designed expressly for pumping water and other fluids of similar viscosity at high altitudes, or for pumping fluids of higher specific gravity at lower elevations.

Other characteristics of this pump are: 15,900 GPH and pressures up to 40 p.s.i., self priming, high capacity at high heads and having straight crankshaft-to-pump connection. The latter employs a standard straight keyed crankshaft, to permit quick change of engines in the field or the rapid changeover of an iron to a bronze pump. To suit special corrosive conditions of fluids, the open adaptor construction peculiar to the MP design prevents fluids from contacting engine shaft or its bearing to cause rusting and subsequent failure. For further descriptive information on the pump, check No. 6953 on the coupon and mail.

No. 6952—Chemical Catalog

A newly revised products list of "Hooker Chemicals" has just been published by Hooker Chemical Corp. Designated as bulletin No. 100-C, it contains brief descriptions, physical data, uses and shipping information with respect to the many chemicals listed. For a copy of the bulletin, check No. 6952 on the coupon and mail to this publication.

No. 6954—Face Shield

A safety helmet with a combination acetate face protector and soft vinyl hood and bib has recently been announced by Paulson Mfg. Corp. The makers claim this new type of shield

Send me information on the items marked:

- | | |
|---|---|
| <input type="checkbox"/> No. 6952—Chemical Catalog | <input type="checkbox"/> No. 6959—Combination Spreader |
| <input type="checkbox"/> No. 6953—Utility Pump | <input type="checkbox"/> No. 6960—Weed, Brush Killer |
| <input type="checkbox"/> No. 6954—Face Shield | <input type="checkbox"/> No. 6961—Lining Materials Data |
| <input type="checkbox"/> No. 6955—Lift Truck Booklet | <input type="checkbox"/> No. 6962—Information on Spreader |
| <input type="checkbox"/> No. 6956—Tolerance Folder | <input type="checkbox"/> No. 7650—New Package Size |
| <input type="checkbox"/> No. 6957—Farm Chemical Catalog | <input type="checkbox"/> No. 7649—"New Leader" Spreader |
| <input type="checkbox"/> No. 6958—Nitrogen Pamphlet | |

(PLEASE PRINT OR TYPE)

NAME

COMPANY

ADDRESS

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 219,
P. L. & R.)
MINNEAPOLIS,
MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67

Reader Service Dept.

Minneapolis 40, Minn.

FALL SALES

(Continued from page 9)

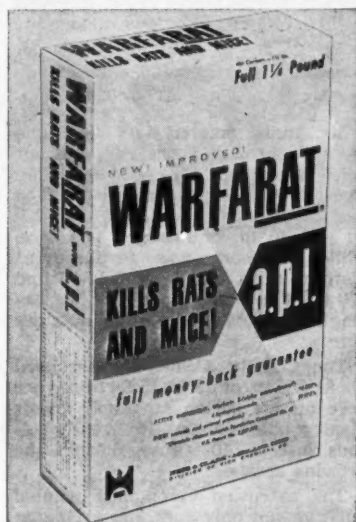


offers top-of-head, full face and chin protection while working with flying particles of dust, powder, chemicals and paints. The headgear is interchangeable and is made of light weight plastic. Headband is adjustable for marked sizes of 6 to 8.

The face protector is made of select optical plastic and is said to be free of any distortion as well as to be fire and spark resistant. The entire unit weighs less than seven ounces and is available with either attractive white or black unbreakable headgear. For further information, check No. 6954 on the coupon.

No. 7650—New Package Size

Warfarat, a rodenticide produced by Hess & Clark, is now being marketed in a new package size and design, the company announced. The



package is wider and taller and now weighs 1½ lb. It incorporates the basic Hess & Clark colors of red, yellow and black. The 4 lb. size contains eight 8 oz. self feeders. Further details about the changes can be obtained by checking No. 7650 on the coupon and mailing.

No. 6955—Lift Truck Booklet

Described in detail in a new 24-page booklet entitled, "What Makes It Tick?", just released by Towmotor Corp., are features of a new "Stream-Liner" series of fork lift trucks produced by the company.

Among the design features incorporated into the new lift truck models are a new lowered cowl which gives the operator full vision to the forks, on either side, a new "direct view" instrument panel, and a new treadle-type accelerator that cuts driver fatigue.

According to Towmotor engineers, all operating controls on the newly styled "Stream-Liner" Series simulate those used on motor cars—to simplify operator training. The trucks are available in 8 different gasoline, diesel, or LP-gas-powered models, with lifting capacities ranging from 2000 to

4000 lbs., the makers say. Check No. 6955 on the coupon for a copy of the bulletin.



area's leading crop, and the institutions, plants and private estates with large areas of lawn and grass grounds.

One outside man pushes fertilizers, while selling other lines handled by the company. He concentrates on potential ton buyers, such as the fall users, and the larger watermelon growers. He also sells smaller dealers in the territory and helps them to sell their customers when such aid is requested.

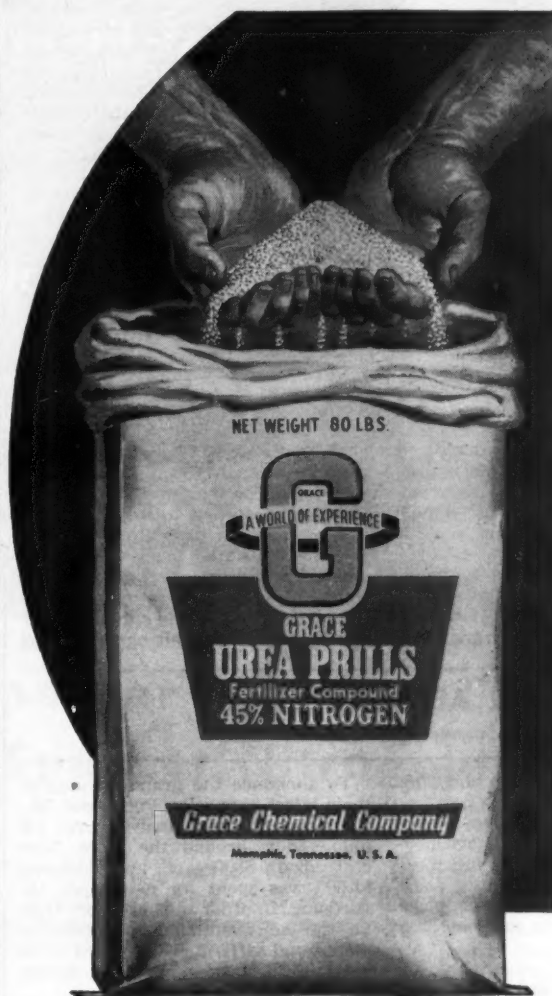
Roy D. Metzger, the outside man, works on straight salary, plus a small percentage of the company's net profit. This usually is around 5%, and the actual amount obviously

varies from year to year. Settlement for the bonus is made after the end of the year.

When he calls on fertilizer customers, Mr. Metzger not only carries his catalog and literature on the various fertilizers stocked but samples of specialties, such as insecticides, poisons and even fertilizer samples when there is a new line in stock and he wants to introduce it to his customers.

CONFERENCE ANNOUNCED

SAN JOSE, CAL.—The North West Agricultural Chemicals Industry Conference, sponsored each year by Western Agricultural Chemicals Assn., will be held Jan. 20-21, 1960 in the Benson Hotel, Portland, Ore., according to an announcement by C. O. Barnard, executive secretary.



Why you'll
sell more
**Grace
Urea
Prills**
This Fall

**Its special properties help build
a more profitable business for you**

In the fall of the year, you'll find Grace Urea Prills offer you a real opportunity for *extra* profits.

That's because Grace Urea Prills is a *superior* nitrogen fertilizer *ideal* for fall application.

Your customers can use Grace Urea Prills profitably for:

✓ Plow-down of crop residue. (Hastens decomposition of the fiber, so that it will not interfere with new plant growth in the spring.)

✓ Broadcast for small grains.

✓ Fall fertilization of pastures.

Recommend these uses to your customers. And be sure you supply them with Grace Urea Prills. This special free-flowing form of urea "weathers" wonderfully. Its anti-leaching quality is definitely superior to other solid nitrogen fertilizers. And it is *guaranteed 45% nitrogen*.

To build up the nitrogen content in liquid fertilizers, use either Agricultural Grade Grace Crystal Urea or Grace Urea Prills. Both dissolve readily, *stay* dissolved.



Grace Chemical Company

A DIVISION OF W. R. GRACE & CO.
MEMPHIS, TENN.



FARM SERVICE DATA

EXTENSION SERVICE REPORTS

From 75 to 80 Georgia county agents and representatives of fertilizer companies in the area observed the grazing and feed production program of the Jack Deriso farm near here on July 2.

The meeting was one of a series of six fertilizer meetings being conducted over the state by the extension service.

The visitors saw pastures and fields of corn and other grain that won young Mr. Deriso top district honors in the program for southwest Georgia.

The tour included a demonstration of coastal Bermuda grass production grown according to extension service fertilizer and management recommendations. On the demonstration plot, sponsored by the Georgia Plant Food Educational Society, Mr. Deriso made four tons of hay per acre last year. He fertilized with 500 lb. of 2-12-12 and 100 lb. of nitrogen per acre.

The Sumter County visitors also saw excellent fields of corn being grown for silage and Starr millet for grazing on the Deriso farm, and also saw an outstanding dairy- and swine program.

During a luncheon program certificates were given out by W. A. King, district agent, for farmers with outstanding grazing and feed programs. The certificates were given to county agents, who are to present them to farmers at similar programs in their home counties.

★

The 1959 insect control season is over for South Carolina cotton growers. But they shouldn't ring down the curtain without a little thought for those dusters and sprayers that served so well this summer.

Before storing cotton dusting or spray equipment for the winter, L. M. Sparks, Clemson extension cotton insect and disease specialist, reminds growers to clean it thoroughly to prevent damage from gumming and corrosion. He explains that many chemicals used in insecticides and defoliants are corrosive, and if they're allowed to remain in the equipment can cause damage.

To clean up the sprayer, it should be flushed several times with water and allowed to dry. It should be flushed again with fuel oil and stored in a dry place.

All spray nozzles should be cleaned with fuel oil, placed in a sack, and stored with the sprayer. All hoses should be plugged to keep out birds, bugs and dirt.

★

George Kessler, Lowndes county agent, is advising farmers to check on quality of their crop and see if they might be farming at a low potash level. Potash is especially needed to produce quality crops, it was pointed out.

Technical information given in connection with potash and the farming is to this effect: Potash is needed for producing quality crops. Potash is needed for formation of sugars and starches in plants—that is, to produce sweet, juicy melons, plump ears of corn and good grains of wheat. Potash increases resistance to disease, prevents cotton rust and gives extra quality cotton, and it also aids in winter kill.

It was pointed out that Lowndes

County soils are too low in potash, and that soil tests indicate that too little potash is being produced to make the high quality crops that will bring the best returns in dollars.

★

Fertilization is a factor in making a success out of soybeans used for both cover crop and cash crop.

At first T. O. Glover, Washington County, Georgia, farmer, planned the soybeans as a cover crop to rebuild the soil, but in the need for additional cash crops he decided to harvest the soybeans and sell them before turning the plants under the soil.

Liquid nitrogen is his preference for fertilizer, and he applies 100 lb. per acre. He also says the soybeans can take advantage of the fertilizer left over from oats if the grain has been adequately fertilized.

Mr. Glover plants about 250 acres of soybeans and markets the beans as seed in Sandersville, Ga. While he has built up the quality of his seed, he is working toward getting into a certified seed program.

★

Forage farmers growing coastal Bermuda grass alone or with crimson clover may profit by keeping their potash levels high enough to replenish the large amounts of potash that high-nitrogen forage removes from the soil, Georgia research scientists at the University of Georgia, reported.

In a four-year search, W. E. Adams and R. A. McCreery found that potash was the one nutrient most frequently limiting the stand and pro-

duction of the crimson clover and that coastal Bermuda forage took up nearly twice as much potash as they applied to the soil. According to the two scientists: "The more we increased nitrogen rates the more potash the grass and clover removed from the soil."

They found that 200 lb. of potash per acre produced eight times more clover than no potash. They also found it took at least 200 lb. of potash per acre to maintain efficient grass stands when high nitrogen rates are applied.

When they grew crimson clover with coastal Bermuda, 100 lb. per acre of nitrogen applied to the grass increased forage production of the associated clover, but other rates reduced clover forage below check plots. The first 50 lb. of phosphate per acre increased clover forage almost 50% over no phosphate, but additional rates did not affect clover production.

When they grew coastal Bermuda alone, the grass removed about a pound of potash for each pound of nitrogen up to 200 lb. per acre nitrogen. When nitrogen and potash were adequately supplied, but phosphate was limited, they noticed a reduction in the height of the coastal Bermuda at harvest. They found 100 lb. of nitrogen, 50 lb. of phosphate and 50 lb. of potash produced 4.23 tons of grass forage per acre. And 200-100-100 lb. NPK produced 5.62 tons per acre, while 400-200-200 lb. NPK produced 7.5 tons per acre.

The scientists also found that increasing fertilizer levels decreased the amount of water used (or demanded) by each ton of coastal Bermuda forage.

★

The V-shaped yellowing of corn leaves is a tattle-tale symptom of nitrogen deficiency.

Tests run at the Ohio Agricultural Experiment Station to learn the best kind of nitrogen to use on corn and also the best time to apply it, indicated that farmers can expect better profits from their nitrogen fertilizer by putting it on in the spring. Either the nitrate form of nitrogen, such as

ammonium nitrate or the ammonia form such as ammonium sulfate were equally good when applied in the spring.

When no nitrogen was applied, only 78 bu. corn an acre were harvested. Six lb. nitrogen hiked yields to between 90 and 112 bu., depending upon when it was put on.

Ammonia nitrogen applied in May resulted in yields of 112 bu. an acre, with nitrate nitrogen just two bushels less. When ammonia nitrogen was used in November the following season's yields ran 105 bu. while nitrate nitrogen produced a yield of 90 bu.

The nitrogen can be applied satisfactorily either as plow-down or as side-dress when the corn is six to 12 inches tall.

★

D. C. Arrington, dairy and hog farmer of Route 1, Moultrie, Ga., has found out that it pays to follow recommendations of the University of Georgia's agricultural extension service on the kinds and amounts of fertilizer to use.

Hugh Inglis, extension agronomist in charge of seed certification, says taking such advice has helped Mr. Arrington to grow bumper crops. He added that Mr. Arrington also plants most of his farm to varieties and hybrids being increased and certified under the crop improvement program. Some of his crops are coastal Bermuda, Gahi-1 millet, Dixie 19 corn, Empire cotton and Dixie Spanish peanuts.

Mr. Arrington has 260 acres in cropland and 123 acres in pasture which Mr. Inglis says he "put to efficient use in carrying 100 dairy cows, 18 yearlings, 35 calves and 13 brood sows."

Mr. Inglis pointed out that the coastal Bermuda, corn, and peanut fields were limed this year according to soil test recommendations. The pasture also received 500 lb. of 0-10-20 and 30 lb. of nitrogen per acre, while the corn was fertilized at planting with 700 lb. of 5-10-15 and 100 lb. of nitrogen. Last year Mr. Arrington made 1,500 lb. of peanuts per acre.

The Colquitt County farmer used about 600 lb. of 15-10-15 fertilizer per acre on his cotton land and makes about a bale per acre. He usually poisons insects 10 times during the growing season.

The extension agronomist pointed out that not only does Mr. Arrington follow recommendations on fertilizer to use and varieties or hybrids to plant, but he also follows recommendations on other cultural practices such as proper spacing of plants in the row and spacing between rows.

★

"It's good business to anticipate the fertilizer needs of crops before deficiency symptoms can be seen on the fall crop itself," said George Kessler, Lowndes County agent.

Mr. Kessler said that waiting for a deficiency to develop is a poor practice, for by then crop losses already have taken place. In present-day farming, he added, the real problem is to know how well a particular fertilizer is meeting the needs of a crop.

Mr. Kessler pointed out that once a farmer has embarked on a fertilizer program, its value in meeting the needs of the crop from year to year can be estimated by soil tests. He said soil testing is a practical tool that tells about the soil before the trouble appears and before it is too late to correct it. Testing is the modern way to determine fertilizer and lime needs.

APPROACH

(Continued from page 9)

self-service and a one-stop shopping service.

"To go back to an old farm supply expression," says Frank, Jr., "we have found that we must keep a full wagon. Today's customers want a place to park and a one-stop shopping place where they can get in and out in a hurry."

With their latest expansion the "Supply Company" has been dropped and the name is now simply "Poe's" and the company offers the customer just about anything imaginable in hardware, housewares, paints, plumbing, fertilizers, insecticides, garden tools, power mowers, barbecue supplies, seeds, and rentals.

New display equipment throughout is on a self-service plan and the store expects to handle a 50% increase in sales.

Forty different departments are plainly identified with four-sided numbered markers over supermarket type gondolas. At a spacious lobby two cashiers work at checkout counters which also serve as glass showcases. An overhead sign invites "Welcome to Poe's, The Friendly Quick Service Store, Serve Yourself or Ask for Service."

For customer convenience shopping carts are available and merchandise is grouped according to category. Floors have asphalt tile and ceilings have acoustical tiling. Neon lights at ceiling height give the store a bright shadowless lighting day or night.

From the outside the name is spelled in large neon lights and a storewide plate glass front makes the entire building a showroom.

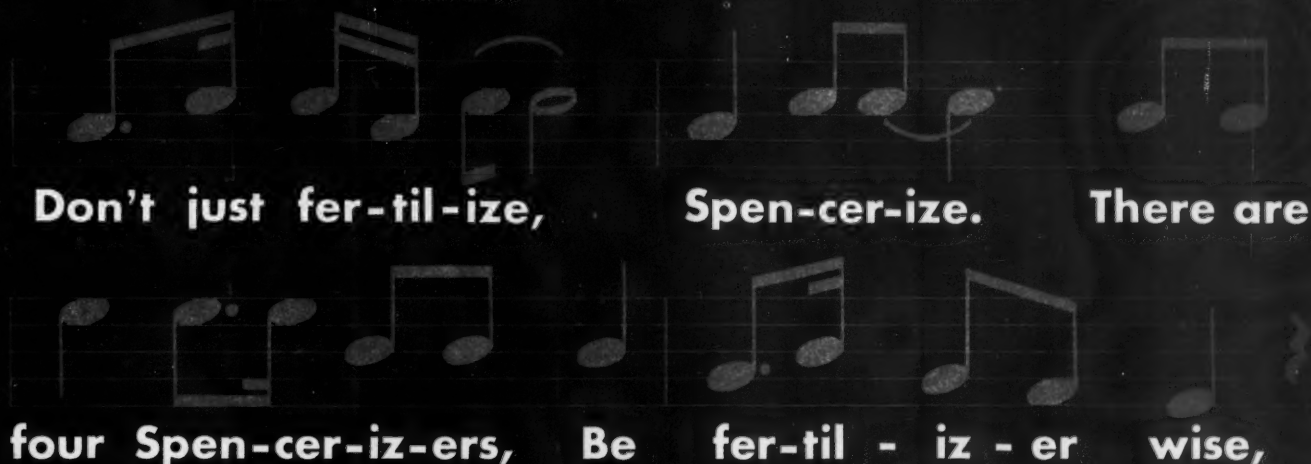
To announce the grand opening of their latest expansion Poe's used 30,000 pieces of direct mail to cover a 3 mile radius around the store. This cost about \$800, and an additional \$1,600 was spent for newspaper advertising. In order to boost store traffic the ad mentioned free refreshments and gifts, and restricted price specials to cash and carry during grand opening.

Hostesses and store clerks questioned customers to determine whether mail or newspaper ad produced best results. It was estimated that the \$1,600 for newspaper ads drew three times as many people as the \$800 for direct mail. However, Poe's still uses direct mail on some occasions. A very effective mailing piece is a post card with a hole in it and a request to hang it in garage, kitchen, workshop, or utility room for future reference. This lists many of the rental tools and the different types of merchandise available at Poe's.

During the grand opening a special section of the showroom was used to demonstrate some of the rental equipment. One side of a gondola display was also used as a "Rental Bar" to show this equipment. However, normally rental equipment is kept in a back room near the repair shop. A large wall board at the front entrance lists equipment available and rates per 1/4 day.

This store is a good example of how a business can overcome the obstacle of changing conditions by taking advantage of the changes and making them opportunities.

Don't Just Fertilize... Spencerize



Now! Spencer Makes It Easier for You To Sell Spencer Nitrogen! Here's How:

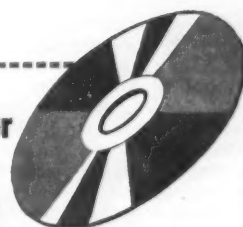
It's easy for you to sell a product that people want. That's why Spencer Chemical Company has started an exciting new campaign to make more farmers want nitrogen—*Spencer Nitrogen*. Spencer "Mr. N" Ammonium Nitrate is already the leading brand of ammonium nitrate in almost all of Spencer's 28 states, and now all four Spencer Nitrogens will be under the same selling tent.

In the biggest campaign in Spencer history farmers will be told that, no matter what type of nitrogen they want, Spencer has it. They'll know that Spencer's complete line includes Spencer "Mr. N" Ammonium Nitrate . . . Spencer URA-GREEN and ANA-GREEN Nitrogen Solutions . . . Spencer Anhydrous Ammonia . . . and Spencer 45 Urea.

"Don't just fertilize . . . Spencerize"—that's the catchy theme of this Spencer campaign, and nearly every farmer in your trade area will be seeing it in leading farm magazines and hearing it on key farm radio stations. As you can see above, the Spencerizer theme has even been set to music.

A free record of this toe-tapping new Spencerizer song is yours for the asking. Just fill in the coupon at right and mail it to Spencer. By return mail you'll receive a full-length 45 rpm hi-fidelity recording by one of America's leading country music bands. The Spencer people think you'll enjoy playing this recording, and hope that this brand new Spencerizer campaign will help you sell more nitrogen — Spencer nitrogen.

Send for your
**FREE
RECORD**



Spencer Chemical Company
Dwight Building
Kansas City 5, Missouri
Gentlemen:

Please send me without charge or obligation your 45 rpm recording of "Don't Just Fertilize . . . Spencerize!"

Name _____
Company _____
Address _____
City _____ State _____



Don't just Fertilize... Spencerize

SPENCER CHEMICAL COMPANY, Kansas City, Missouri

Producer of 4 Nitrogen Spencerizers for hungry crops

SCHOENFELD AND MCGILLICUDDY



OSCAR & PAT

By AL P. NELSON

It was one of those late fall afternoons when business at the Schoenfeld and McGillicuddy Store picked up speed like a hot rod car at a stop light when the green signal shows. Tillie Mason, the plump, ulcerish bookkeeper, was waiting on a customer who wanted some shears to trim out dead raspberry canes. The bulk truck driver was out with some plowdown fertilizer to spread. The light truck was out delivering lawn fertilizer, and Oscar himself was neglecting his discount work because he had to wait on floor trade, which he hated to do.

Right now Oscar was waiting on an old lady who couldn't decide if she wanted five or ten pounds of dog food for little Fido. The phone rang, and Oscar answered it because he was close at hand.

"Hello," said somebody. "Is Pat there?"

"No," barked Oscar. "He should, but he ain't."

"Oh," said the voice, "I'm Jim Davenport. I run the Quality Cleaners. Pat's been after me to join the Chamber. I've finally decided to join and I want him to get the credit. Tell him, will you?"

"Ach, you are makink a mistake joinink them Chamber fellows," Oscar snapped. "If you do you will neffer haf any time to spend in your business. That Pat is chasink oudt all the time, when he shouldt be tendink to business, collectink or workink in the schtore. Chamber of Commerce. Phooey."

"Oh my," said the little old lady who wanted dog food. "Who was that you were talking to? Your wife?"

"No," said Oscar sourly. "She's got sense. My partner ain't. How much dog food do you want, lady?"

"Oh, I want to buy 10 pounds because it's cheaper, but where will I put it?" moaned the little lady. "I have such a small house and Fido's so snoopy she can get in almost any closet. I guess I'll have to take a 5-lb. bag. I can keep that in my dresser drawer."

Oscar was just taking the money for the dog food from the lady when the phone rang again. Tillie was still busy selling a hedge clipper. "Let it ring!" Oscar growled as Tillie looked nervous. "Let it ring. They can wait."

Because he was in an ornery mood he counted out the money to the little lady, especially slowly, although the phone rang insistently.

Then, slowly, he lifted the receiver. "Who is it?" he asked gruffly.

"My heavens, don't you people ever answer your phone?" asked an irritable voice. "It's been ringing for about five minutes. You lose customers that way, and—"

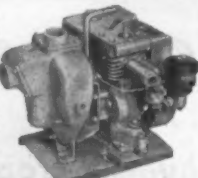
"Who is it?" Oscar thundered. "We are busy here."

There was a chilly silence. "I'm Bill Cardon. I'm assistant to the president of the Chamber of Commerce. Is Pat there?"

what's NEW?

Broyhill No. 8 Transfer Pump

A complete unit for transferring liquid fertilizers 100 gal. per minute. Self-cleaning, non-clogging. Centrifugal pump coupled to engine on carry-stand. Write for complete details, prices and delivery date, to:



the **Broyhill COMPANY** DARTON CITY, NEBRASKA

"No!" barked Oscar. "He ain't, but he shouldt be."

"Well, tell him he won the Chamber of Commerce Membership Contest. He got more members than any other chairman. He wins a wonderful raincoat at Mahoney's Clothing Store."

"Ach!" Oscar barked, "those Irishers stick together. He won a membership contest, eh? Well, he shouldt work hard and try to win a collection contest we got right at this store. He don't hustle at that. All he does is go to Kiwanis, Chamber of Commerce and farm meetinks. Someday he won't be able to find his way back to the store. He'll forget where it is."

He hung up angrily, just as a young boy said, "Mister, my Ma wants 30¢ worth of sunflower seeds. And she says they all got to be big ones. Our parrot don't like small ones."

"He don't!" Oscar thundered. "Ach, we got no time to sift sunflower seeds. You take what I got. Big or little or what."

"Gee, Mister," the boy said, "are you mad like this at every customer

that comes in? That ain't good for business, is it?"

The boy silently dug up the 30¢ and handed the money to Oscar. Pat chose this moment to enter the store in the company of a big, stocky man with a hearty laugh and wearing a broad brimmed Stetson.

"So this is what a fertilizer store looks like, eh, Pat?" he said heartily. "Well, treat me right, and I'll be buying a lot of fertilizer from you. I'm a gentleman farmer and I got dough to spend. Test that soil of mine and write a prescription for fertilizer. I'm not from Texas, but I want to make that soil produce fast, man."

"We can help you do that!" Pat said happily. "Leave it up to us. We'll make crops grow on that Flan-dey place. Soil's run down now, but it can be rebuilt. It's a fine estate."

"I don't care what it costs, that is, within reason," said the man. "I want things done right. This is my hobby. I've always loved the land. I've got a hankering to see things grow big. And I guess I'll raise some cattle, too. Kinda like the

idea of raisin' my own beefsteak."

Noticing Oscar standing coldly, Pat said, "Mr. Shackleford, I would like to have you meet my partner, Oscar. He's the business man, the cost man in the firm. He sees to it that the customers are taken care of price wise."

"Hi, Osky, old boy," said Shackleford jovially, sticking out a pudgy hand and shaking Oscar's tense one. "You and I are gonna see a lot of each other, I hope. I buy big and I pay promptly. How's that for a policy?"

Oscar was too stunned to reply. "Good thing I met you at that farm meeting," Shackleford said to Pat. "I liked the cut of your jaw and the way you talked right from the start. I need a good man to steer me in this business, and I figure you are it. I know when I can trust an Irishman and when I can't. How about it, Oscar?"

Oscar looked at Pat and then at Shackleford. He felt very strange. For the first time in his life an inferiority complex pricked him very sharply. But finally he managed to say,

"Ach, we always watch out for the customer, but we don't forget to look out for ourselves."

"Hurray," said Shackleford. "That's common sense, Oscar. I have a feeling I'm gonna get along okay with you, too."

"I hope," thought Oscar, but he didn't say so. "First I got to see what some of your money looks like. Talk is cheap."

Louisiana Firm Takes Advantage of Neglected Opportunity for Profits

By JESS BLAIR

Occasionally the agricultural chemical dealer may neglect some sales outlet that is his for the asking. The Forest Chemical & Supply Co., Inc., of Monroe, La., found such an opportunity two or three years ago. This was in applying soil sterilants around industrial plants to keep down excessive vegetative growth.

"We are working with several large lumber and paper mills," said H. R. Kelly, who keeps the office open and handles all the bookkeeping. "In this heavy rainfall area grass and weeds make a rapid growth almost every year. When they die, this creates a serious fire hazard, so we now spray a strip around the mills to kill all vegetation."

Using a boom-type sprayer, the company sprays a strip a few feet wide at the rate of 50 lb. per acre the first year and then 30 lb. each succeeding year. Usually the strip treated is from 10 to 15 ft. wide and may run for a mile or two around the large plants.

The firm also sprays around smaller industrial buildings, and for anyone who wishes to keep down the grass and weeds around his property.

"We are also doing a lot of spraying for the lumber and paper mills," said Mr. Kelly. "The brush comes in fast, so we keep the hardwoods thinned out to give the pines a better chance to grow."

Most of this work is custom done, however the firm also sells and repairs power sprayers and handles sprayer parts. Farmers in particular often do their own grass and weed control, and usually buy both the sprayer and material from the Forest Chemical & Supply.

The company ships the sprayers disassembled and then puts them together in the shop. It now has a trade radius that covers most of northwest Louisiana. In addition to soil sterilants and herbicides, the firm also handles insecticides of various kinds.

"Our spray service for industrial firms brings in a large part of the sales," said Mr. Kelly. "We have three large sprayers for this custom work, and usually they are kept quite busy."

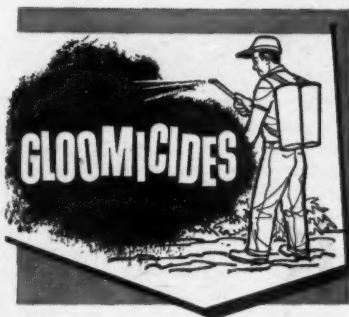
For this work the company uses mostly 2,4-D and 2,4,5-T, but keeps up with all new chemicals being formulated. After becoming equipped for such work and gaining the experience necessary to do it properly, the company has had no trouble in getting new accounts. Several large companies hearing of the work have come to the Forest Chemical & Supply and asked to be included in its vegetative control program.

The firm has become sprayer headquarters for Monroe, and sells sprayer parts of all kinds. This has helped sell new sprayers and increased the sale of chemicals.

In operating such a business successfully, Mr. Kelly listed three rules the company follows. It handles such a large supply of equipment that the customer can find whatever he needs at the store. The company keeps up with the latest chemicals and can make valuable recommendations to all customers for all types of work. And finally, even though no one else is doing much of this work around Monroe, the prices are kept reasonable.



STORE BUILDING of Forest Chemical & Supply Co., Inc., shows items and services the company sells to customers. Small rig at extreme right is for spot spraying.



A shrewd businessman was on a trip through the Southwest and was looking for souvenirs to take home to his friends.

He spotted an old Indian with a pile of blankets for sale and asked, "How much for the lot?"

"A hundred dollars," replied the old Indian.

"Twenty-four dollars," was the reply.

"Listen," said the Indian. "Bargains like Manhattan Island you ain't going to get no more."

★

Married men may not be the best informed people, but they certainly are the most.

★

A would-be soap-box orator who had reached the argumentative stage sat down next to a clergyman on a bus. Wishing to get into an argument, he turned and said, "I'm not going to heaven because there is no heaven." His words, however, got no response.

"I said I'm not going to heaven because there is no heaven," he said again, almost shouting as he came to the end of his sentence.

"Well, then," replied the clergyman calmly, "go to hell, but be quiet about it."

★

If a man takes off his hat in an elevator, it means two things: He has manners and hair.

★

A customer sat down at a table in a fashionable restaurant, and tied a napkin around his neck. The scandalized manager hailed a waiter and instructed him to make the customer understand that that kind of thing just isn't done, but to be tactful about it.

The waiter walked up to the table, stared at the customer thoughtfully, bent over, and inquired softly: "Pardon me, sir. Shave or haircut?"

★

He: "Your stockings are wrinkled."
She: "I hate you! I'm not wearing any."

★

A Dallas paper reported recently that the wife of one of Texas' wealthiest oil men lost control of her car and smashed into ten others before she could come to a halt. No law suits—it all happened in her own garage!

★

Then there was the man who was interested in his wife's happiness. He even hired a private detective to check into the reasons for it.

★

In a heavy fog off Newfoundland, a ship collided with a fishing boat. No real damage was done, but as the offending ship tried to back off, it banged into the boat again. The captain of the ship was afraid he might have done some damage with the second blow. "Can you stay afloat?" he shouted through a megaphone, to the floundering victim.

"I guess so," called back the skipper of the boat. "You want to try again?"

★

Dora: I don't think that story we heard about Flora is so bad.

Cora: Give it time, dear, give it time.

PHILLIPS 66 ads like this appear regularly in **CAPPER'S FARMER, PROGRESSIVE FARMER, FARM JOURNAL, FARMER-STOCKMAN** and **FARM and RANCH** . . . part of a continuing program to help dealers sell more mixed fertilizers and **PHILLIPS 66 AMMONIUM NITRATE**.



Phillips 66 Ammonium Nitrate



Ordinary Ammonium Nitrate



(Both photos shown two times actual size.)

PROOF OF PERFORMANCE

These unretouched photos tell the story. The uniformly round, hard prills of Phillips 66 Ammonium Nitrate flow freely . . . do not cake or clog in the applicator . . . no skipping or bridging. Pre-plant, side dress, top dress, or plow down . . . this premium fertilizer gives your crops a full 33.5% nitrogen. Half is fast-acting nitrate nitrogen and half is long-lasting ammonia nitrogen . . . gives crops a good start and sustained feeding up to maturity . . . provides higher yielding, more profitable harvests.

This Ammonium Nitrate is Guaranteed to Flow Freely

What better assurance can you have of easier, more uniform application . . . of more uniform crop response without costly skips? If you are not satisfied that Phillips 66 Ammonium Nitrate lives up to its guarantee—flows freely when stored and applied in a normal manner—your dealer will replace it immediately at no additional cost to you.

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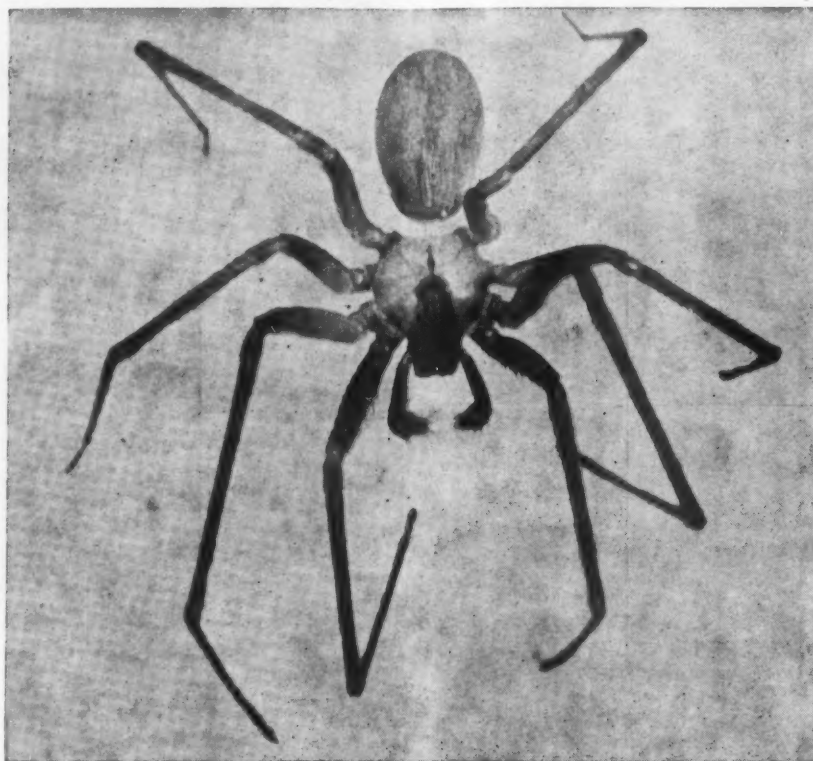
When you place your next order . . . specify Phillips 66 Ammonium Nitrate. *It costs no more.* Yet, it gives you that big "extra"—the assurance of even application . . . more uniform crop response.

"A Good Name  to Grow By"

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BUG OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board



Brown Spider

Identification

This insect, illustrated above in great magnification, is characterized by its large, spreading legs on a comparatively small body. A distinguishing dark spot covers the region of the eyes, and extends back to form a sort of "violin" shaped marking peculiar to the brown spider. It is plain light brown or rosy tan in color, rather transparent, and varies in actual size, including leg-spread, from about the size of a dime to a quarter.

Harm Done by Brown Spider

Not an agricultural pest, this insect is poisonous and dangerous to human beings, particularly children to whom spider bites are sometimes fatal. The insect is aggressive, but initially, the bite feels not much more severe than the sting of a mosquito. In about 24 hours, however,

a blister forms at the bite, and fever, chills, rash, headache, and pains in joints may follow. The blister turns into an ulcer, which in some cases will not yield to medical treatments and must be removed by surgery.

Habits of Brown Spider

The pest likes to reside in cool, dark places which are reasonably dry. It does not like damp areas.

Control of Spider

Entomologists and health authorities state that application of practically any insect spray will control this bug, but add that the material should be directed against baseboards in rooms and closets of homes and on the basement foundation. Space sprays are relatively ineffective against the brown spider.

NORTHEAST

(Continued from page 1)

the theme of the discussion handled by Murry McJunkin, U.S. Steel Corp., Pittsburgh, and Francis A. Raymaley, American Cyanamid Co., New York. A balanced fertilizer program, including adequate amounts of potash, phosphorus and lime in addition to nitrogen, is the first essential to good grass quality, Mr. McJunkin declared. Proper soil testing to determine the needs of each farm's acreage is a must. The use of lime according to what the soil needs, not on terms of what the government subsidy provides, is a prime objective, he added. The use of labor-saving devices such as those in a bulk spreading program also must be considered in an economical forage program.

Tom R. Cox, moderator, interjected the thought that when adequate plant food is used on forage crops, the farmer will gain by taking advantage of early cutting. Early cutting provides more palatable feed for dairy cattle, helps to preserve the stand of grass and takes advantage of residual moisture permitting more cuttings from any particular field.

The panel pointed out the dollars which can be made on a dairy forage program in the East, using as an example results of tests with Pennsylvania bluegrass:

	Unfertilized	Fertilized
Green weight per A...	2.3 ton	12.6 ton
Cow days	1 cow for 1 month	5 1/2 months
Protein per A, lb. . .	175	1,083
Soy meal supp., lb. . .	416	2,578
TDN, lb.	690	3,780
Milk per A, lb. . . .	1,254	6,872
Dollars per A return (milk @ \$3.50 cwt.)	\$43.89	\$240.52
Fertilizer cost	0.00	\$ 22.20
Profit per A	\$43.89	\$218.32
Fertilizer materials needed per A	none	400 lb. 10-10-10 60 lb. N

These figures demonstrate how future fertilizer business can be expanded in the East on a sound basis, the speakers declared. The Northeast is a forage area, but farmers now are operating on only 40% of their potential. To survive the trends, dairy farmers must increase their herds and be more efficient in their operations. Work with the dairymen who are moving forward with these ideas and the fertilizer business in the area will increase, the panel concluded.

Continuing the description of Northeastern agriculture, Dr. Howard B. Sprague, head of the department of agronomy, Pennsylvania State University, described the prospects for livestock production in the future. If there are 230 million people in the U.S. by 1975, as predicted, we will need 16.3 billion more pounds of red meat, 1.1 billion pounds more chicken meat and 22 billion additional quarts of milk, he said.

Will the Northeast participate in this expansion? he asked. Land use will depend largely on how it will be utilized for forage, Dr. Sprague declared. Yields per acre must be doubled, or even tripled, according to the speaker, and tillable land in grains must be doubled.

The East's future in the red meat picture depends largely on how the farmers provide adequate and economical feed for cattle and sheep, since animals really are means through which the fruits of the soil are converted to human food, the speaker said. The Northeast has a good climate condition for rainfall and low incidence of disastrous storms. "The problem we have before us is to interest farmers in using all available facts for their operation and change to better programs when they come along. Easterners are traditionally somewhat slower to respond to new ideas, but if we can demonstrate how these ideas can be converted to greater production and better profits we will meet the challenge of the needs of an expanding population," he said.

Concluding the forage forum was Arthur J. Wells, sales manager of the

seed and soil building department, G.L.F. Exchange, Inc., Ithaca, N.Y., who described his organization's five-star forage program. The five steps in G.L.F.'s program are (1) soil testing; the first approach to a forage program, strongly recommended and serviced by the fertilizer supplier, (2) lime-fertilizer; sell a balanced fertilizer program based upon soil test results, (3) seeds and seeding; the latest and best seeds more than make up for what may be a larger investment per bushel, (4) insect and weed control; this phase goes hand in hand with the purchase of best seeds and adequate, balanced fertilizer, and (5) harvesting; use best methods at the proper times for best results and highest production.

"Everywhere we have gone in our trade territory we find that the most

prosperous and best operated farms are those who have gone along with a five-step forage program," Mr. Wells concluded.

Arizona Cotton Matures; Little Control Needed

PHOENIX, ARIZ.—In many areas of the state, cotton is maturing and very little insect control is needed. However, in Maricopa, Pinal, Yuma, and parts of Pima County, some late cotton, and cotton still squaring, may need insect control.

In all of the above counties, the cotton bollworms that are larger than 1/4" should have been, or should be controlled at once. They will destroy small squares as well as blooms and bolls of all sizes.

The salt marsh caterpillar is increasing in some of these areas and controls would pay.

The cotton leaf perforator infestations, in growing fields with a good

top crop, need controls at once. These perforators have a short life cycle and could destroy a great deal of the top portion of the plants before frost.

In Yuma County lygus may still injure some squares and bolls on late cotton.—J. N. Roney.

Fertilizer Plant Moves To New Headquarters

STEVENS POINT, WIS.—Midwestern Farm Fertilizers, Inc., and Midwestern Phosphate Corp. have moved their headquarters from Madison, Wis., to the Kickapoo Fertilizer plant here.

Phillip Q. Sawin, Madison, has been named the new president of the two firms and R. B. Baldrige, Stevens Point, is the new executive vice president and general manager.

Mr. Sawin succeeds Donald W. Aitkin, Sr., Madison, who with his wife was asphyxiated in a trailer while in Colorado last July.

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DRY FERTILIZERS

Prilled Ammonium Nitrate (33.5% N)
Ammonium Sulfate (21% N)
Pelleted Fertilizers (20-20-0,
14-14-14, 20-10-0, 16-16-8)

For complete information, write to:

Manager, Agricultural Chemical Sales, Dept. C-10.



FERTILIZERS

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Bankers, Managers to View California Fertilizer Industry

SAN FRANCISCO—Northern California bankers and professional farm managers will attend a one-day tour of the California fertilizer industry and will be briefed on the key processes in the production of nitrogen, phosphate and potash fertilizers on Wednesday, Oct. 7.

This was an announcement made by Dr. Richard B. Bahme, western regional director of the National Plant Food Institute, which is sponsoring the tour and school in cooperation with the University of California.

"It is the purpose of this tour and school to develop a better understanding of modern chemical fertilizer technology, products and fertilizer use economics among interested agricultural representatives of banks and professional farm managers," Dr. Bahme said.

"The tour will start out at the Berkeley Campus of the University of California where participants will assemble for a briefing conference on phosphate fertilizers in Giannini Hall at 9 a.m.," Dr. Bahme explained. "Drs. W. E. Martin, B. Krantz and R. L. Branson, University of California extension soils specialists, will provide instruction. The group will then leave on a day-long tour of various nitrogen, phosphate and potash manufacturing facilities in the vicinity."

JOINS MASSACHUSETTS

AMHERST, MASS.—William D. Tunis, extension entomologist at the University of Connecticut, joined the department of entomology and plant pathology at the University of Massachusetts on Oct. 1. He will occupy the same position. Mr. Tunis replaces Dr. Ellsworth H. Wheeler, extension entomologist since 1948. Dr. Wheeler will now devote most of his time to teaching courses on pest insects and their control to both four-year and Stockbridge students. He will continue to handle that portion of extension work dealing with home horticulture. A graduate of the university with the class of '49, Mr. Tunis obtained his master's degree from the University of Minnesota in 1951. He has completed requirements for his Ph.D. here at the university.



Paul Blizard

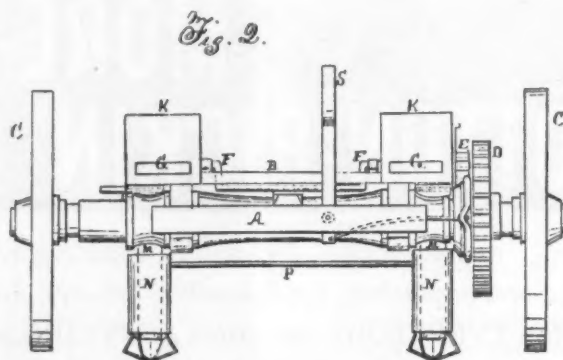
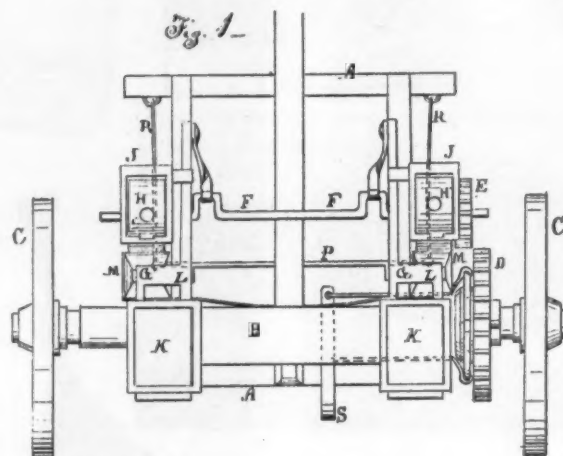
V-C AGRONOMIST—Virginia-Carolina Chemical Corp. has added a second agronomist to its home office staff. Paul Blizard, formerly a V-C fertilizer salesman out of Greensboro, N.C., will assist the company's head agronomist, Myron Kelm. Mr. Blizard recently completed requirements for a master's degree in agriculture at North Carolina State College. He is a past president of the North Carolina Association of Future Farmers of America.



ACCEPTS GIFT—Clare W. Jarvis (center), assistant sales manager of the agricultural chemicals division of Canadian Industries Ltd., was presented with a camera by his colleagues at a recent reception in Toronto on the occasion of his retirement from the company after 43 years in the fertilizer business. With him (left to right) are J. W. Thomson, sales manager; V. B. Lillie, general manager; L. V. Clegg, production manager; H. G. Sewell, sales manager—fertilizer; Mr. Jarvis; Sam Cree, manager, C-I-L's Norwich, Ont. fertilizer plant; and G. B. Ough, Chatham, Ont. district sales manager. Mr. and Mrs. Jarvis and daughter, Valerie, were also honored by the Ontario Plant Food Council at a dinner in the Royal York Hotel. Mr. Jarvis joined C-I-L in 1937 as Toronto sales manager of the fertilizer division after a number of years of experience with other fertilizer firms and three years service in World War I with the Royal Air Force. He was appointed Ontario district sales manager in 1940 and assistant sales manager of the entire agricultural chemicals division in 1950. He was secretary of the Plant Food Producers of Eastern Canada and a member of the Toronto Board of Trade.

Fertilizer Application

In Years Gone By



HARDSHIPS OF agriculture of a century ago were not limited to swarms of locusts and coal-oil lamps. Soil fertility and means of applying the poorly-conditioned fertilizer of the 1860's were major problems . . . which no doubt prompted Samuel H. Wallize, Washingtonville, Pa., to invent and patent an improved fertilizer and corn-planter, combined.

The device, pictured above in the original patent drawings, included a carriage-like rig, one wheel of which activated the pinion-wheel that turned the double crank (F) that in turn operated the slides (G G) that are moved in connection with the seeding rollers of the corn-hoppers and the fertilizer hoppers.

The improvement comprised an arrangement whereby both the fertilizer and the corn seed might be dropped through a single spout without choking or becoming stopped up.

Depth of the furrow was regulated by the driver's feet pressing upon the cross-rod (P). The lever (S) "gears or ungears" the machine.

Oregon Harvest Turning Out 'Well,' Economist Says

CORVALLIS, ORE.—Oregon's harvest appears to be turning out well with most farmers listing average or above average yields, reports Mrs. Elvera Horrell, extension agricultural economist at Oregon State College.

Grain harvest in the state is turning out better than expected, Mrs. Horrell found as she studied reports from the U.S. Department of Agriculture. According to latest estimates, Oregon's total wheat crop may be only about 4% less than last year, and oats about 18% less.

The corn harvest will apparently boom with about 28% more corn ready to harvest. The barley crop appears to be about the same as last year, and some of the malting barley may be moved into feed-grain channels, Mrs. Horrell believes.

There may be less hay this year than last, but total tonnage should still equal the average of the last 10 years.

Oregon's dry pea crop is turning out better than last year, but sugar beet production is reported down.

At least one new record is being set in the state's vegetable fields this year. Favorable August weather improved the prospects for a good crop of sweet corn for processing, and production of this crop is now at the highest level ever.



Donald K. Ballman

Dow Elects Two New Vice Presidents

MIDLAND, MICH.—The board of directors of the Dow Chemical Co. elected Donald K. Ballman and C. B. Branch to positions as vice presidents of the company. Mr. Ballman is director of sales and Mr. Branch is manager of overseas operations. Both are Dow directors.

The board also elected Robert B. Bennett company treasurer and Fred H. Brown to the newly created post of company controller. Both will be responsible to Carl A. Gerstacker, a company vice president who has been treasurer since 1949.

The board's action followed the 62nd annual stockholders meeting at which incumbent directors were re-elected.

Mr. Ballman has been active in both sales and sales development since he joined the company in 1935. His interest in product development led to the formation of the company's technical service and development group in 1943 under his supervision.

After occupying various managerial positions in the sales area, he was named assistant general sales manager in 1945. He was advanced to general sales manager in 1949 and to director of sales in 1957, and was elected a director last year.

Mr. Branch began his career with Dow in 1937 and was variously associated with development and production of cellulose products, styrene and plastics.



Dr. Oscar H. Johnson

Niagara Chemical Names Oscar Johnson to Post

MIDDLEPORT, N. Y. — Dr. Oscar H. Johnson has been named assistant to division manager, Niagara Chemical Division, Food Machinery and Chemical Corp., the firm has announced. Dr. Johnson comes to this position at division headquarters in Middleport, N.Y., from the New York City office of FMC where he has been director of research and development for the organic chemicals department.

S. H. Bear, division manager at Niagara, comments that the appointment will "add substantially to the technical and management capabilities of the division."

Dr. Johnson joined the FMC organization in 1946 when he was in charge of organic research for Niagara. From 1948 to 1954 he held research management positions with the Westvaco Division at South Charleston, West Virginia, and in New York. Following that, he was named director of research and development for Niagara, and during the years 1954 to 1958 was responsible for the company's expanded research program.

Chemagro Names Head For Merged Departments

KANSAS CITY, MO.—Dr. James R. Costello has been named to head the combined operation of the process development section and the pilot plant section at Chemagro Corp., Kansas City.

Formerly operated separately, the two sections have been combined and will now function as an integrated unit to be known as the process development section.

Two other personnel changes were announced in connection with the consolidation. Kenneth H. Rattenbury has been promoted to assistant supervisor and will be in charge of the laboratory group. James H. Vines has been promoted to assistant supervisor and will be in charge of the pilot plant group.

Barnard & Leas Names Swiss Sales Representative

CEDAR RAPIDS, IOWA—Barnard & Leas Manufacturing Co., Inc. of Cedar Rapids, announced the appointment of Euram S.A., 10 Place de la Gare, Lausanne, Switzerland, as its exclusive sales representative for Western Europe.

Euram S.A. will be responsible for the sale of company equipment.

Pierre Guberan, director of the newly formed company, Euram S.A., has just completed an extended visit at the Barnard & Leas factory in Cedar Rapids, Iowa and during this period spent considerable time in the field studying installations.

Mr. Guberan has been for many years an official of the Switzerland Poultry Assn.

Fertilizers Needed For Korean Shipment

WASHINGTON — Bids for shipments of fertilizers to Korea are being accepted by the Office of Small Business, International Corporation Administration, Washington 25, D.C.

Commodities on which bids are sought include 19,180 tons of nitrogen acceptable as 44%-46% Urea; 20.5-21% ammonium sulphate; 33%-33.5% ammonium nitrate; 20%-21% calcium ammonium nitrate; and 26% ammonium sulphate nitrate.

The agency also wants 4,200 tons of contained phosphate, of any of the following: 46% or higher P_2O_5 triple superphosphate; 18%-22% P_2O_5 superphosphate; 19%-21% P_2O_5 fused phosphate.

The bidding deadline is Oct. 9, 1959. Specifications and conditions may be obtained by writing the Korean Embassy, 2322 Massachusetts Ave., Washington.

The agency specifies that all ICA-financed shipments must be marked in accordance with the requirements of ICA Regulation 1.

TRAINING SESSION

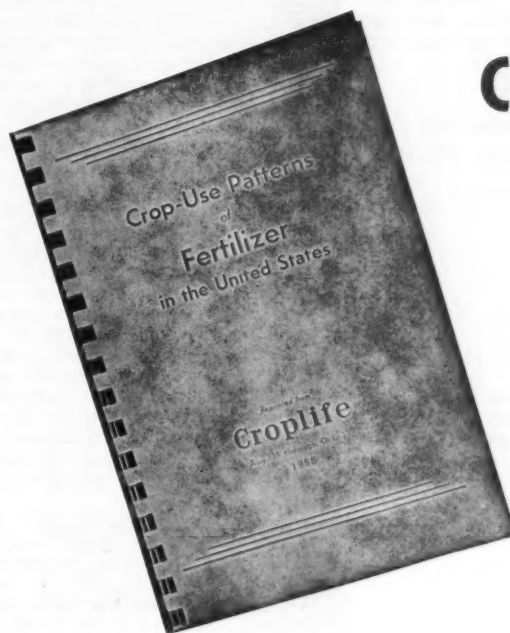
TRENTON, N.J.—A training session for New Jersey soil conservation district supervisors is scheduled for Nov. 6, according to an announcement from Phillip Alampi, state secretary of agriculture and chairman of the State Soil Conservation Committee. The workshop, to be held at the Mercer County Agricultural Extension Office, Trenton, will be sponsored jointly by the committee and by the New Jersey Association of Soil Conservation Districts. Grant F. Walton, newly appointed executive secretary of the State Soil Conservation Committee, will coordinate the program, in cooperation with the New Jersey Agricultural Extension Service and the State Department of Conservation and Economic Development.

C. O. Bartlett & Snow Acquires Wettlaufer Line

CLEVELAND—The C. O. Bartlett & Snow Co. has announced its acquisition of the entire Wettlaufer line of vibrating screens, packing units, blender mixers, granulators and centrifuges. The line was developed by William L. Wettlaufer, Buffalo inventor and authority on screening.

With this addition to its own line of products, Bartlett-Snow says it now provides equipment for drying, calcining, reducing, screening, mixing and conditioning a wide range of materials. Both production equipment and laboratory size units for research or pilot-plant work are included. The firm says that fine screening or liquid screening is handled by vibrating screens, and that screening developments include horizontal conveyor-action screens, dual-powered screens with two eccentric shafts, and screens which vibrate on rubber-tubing supports.

You'll get a better understanding of the fertilizer market from this valuable new book



Crop-Use Patterns of Fertilizer

in the United States

by

J. R. ADAMS L. B. NELSON D. B. IBACH
U.S. DEPARTMENT OF AGRICULTURE

This significant report was compiled by the U.S. Department of Agriculture after thorough studies of fertilizer use in the United States. Crop-Use Patterns covers questions which, until now, have not been adequately answered. Crop-Use Patterns is based on information gathered from every fifth farm surveyed in the most recent U.S. Census . . . providing a broad base of national information.

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Memphis Newspaper Columnist Resumes Fight Against USDA's Spraying Program

MEMPHIS, TENN.—A columnist for the Press-Scimitar, local Scripps-Howard daily, has resumed his attacks against the U.S. Department of Agriculture's spray program to eradicate the white-fringed beetle with dieldrin.

Paul Fairleigh launched his Sept. 1 "gun and reel" column by stating, "the towns of Whitehaven, Germantown and Collierville are to be sprayed within the next few weeks with the same lethal insecticide poison (dieldrin) which caused the death of some bird and small animal life in Memphis early this year."

Actually, only certain concentrated spots, determined by surveys, of infestations in Collierville and Germantown are slated for immediate treatment, according to N. H. Causey and J. M. Landrum of the USDA's Plant Pest Control Division. Whitehaven, which has a much heavier infestation, will be treated later, and then spraying will resume in Memphis.

The Fairleigh column reviewed "developments" in the spray program since last January, pointing out that public sentiment stopped it in March. This was denied at the time by Mr. Causey. In the most recent column Mr. Fairleigh made frequent use of the word "admit" to attribute matter-of-fact statements to Mr. Causey. He also reviewed an article in the August issue of the National Audubon Society magazine which charges that "mass poison spraying is destroying the working processes of nature."

Mr. Landrum, supervisor in charge of pest control for Tennessee, said no complaints had been received two days after the appearance of the column. This could indicate a weakening in public reaction to such "scare" stories. Earlier stories resulted in a flood of calls to the pest control office.

"Such calls haven't impeded progress of the spray program," Mr. Landrum stated. "But they have made our job much more difficult. It's just another phase we have to spend time on."

When a letter of protest comes in from a garden or some other type of club, Mr. Landrum contacts the group and explains the program. Information and bulletins on the spray program are sent along and a request to appear before the group is made.

Newspaper stories often hint at secrecy in connection with areas to be sprayed. Mr. Landrum stated that this is not correct and pointed to a map of the city of Memphis on which areas of treatment are shown in different shades for each year. "Newspaper re-

porters and the public are welcome to inspect this map," Mr. Landrum said. "We've invited Mr. Fairleigh but he hasn't accepted. In fact, we've offered to accompany him to treated areas but he won't accept, and he telephones our office. He never comes in person."

Mr. Landrum stated newspaper stories frequently point out that dieldrin is "20 times as strong as DDT." He added, "Reporters never mention that only one-twentieth as much dieldrin is used."

"Since the program started in 1952 from 5,000 to 7,000 acres have been sprayed in the city of Memphis. Until the scare newspaper stories started, only one complaint had been received and it wasn't a serious one," Mr. Causey said.

In answer to frequent charges that property has been sprayed without the owner's permission, Mr. Landrum said, "We never knowingly have gone on anybody's place who has requested us not to. We now go from door to door to ask permission."

He cited a survey in one area of Memphis in which 150 home owners were contacted. Of the total, 30 owners were not at home and only three out of the remaining 120 refused to have their property sprayed.

In the future Mr. Landrum plans to get a written release from each property owner and to give each a list of precautions to follow.

Nitric Acid Production Starts at Calspray Plant

KENNEWICK, WASH.—Production of nitric acid has begun at the multi-million dollar California Spray-Chemical Corp. plant near Kennewick, C. C. Dorough, plant manager, reports.

The acid, called the basic building block of all fertilizers, will be produced in the first three units completed.

An ammonia-nitrate plant is to be completed Oct. 12 and a complex fertilizer plant is to begin production sometime after Jan. 1, Mr. Dorough said.

Ammonia began flowing to the nitric acid plant by pipeline from the nearby Phillips Chemical plant.

When the other two units are completed, Mr. Dorough said the nitric acid combined with ammonia will make ammonia-nitrate. A combination of nitric acid, ammonia, potash, sulphuric acid and other chemicals will make the complex fertilizers, he said.

year's time by several million dollars. Fertilizer consumption was materially increased, as has been the consumption of lime.

"The land-grant college programs are geared to serve agriculture in this period of change. They are geared to show the farmer those things he must do production-wise to reduce his unit cost of production and to increase his net farm income. These include the intelligent and liberal use of lime and fertilizer."

"Fertilizer recommendations made by most land-grant colleges in the Southeast call for amounts of nitrogen, phosphate, and potash that are about double the amounts being sold by the fertilizer industry today . . . but the farmers in this area need these amounts of fertilizer in order to produce their crops efficiently. If these suggestions are followed, the result is a considerable boost in fertilizer sales."

"The land-grant colleges in the South are doing an outstanding job of working with farmers. The impact of these efforts is shown by increasing acre yields of all major southern crops, by the adoption by farmers of better management practices, by the increase in mechanization on the farm, and by the increasing net farm income."

"The agriculture of the South can and will move forward under the leadership of an enlightened farm population, backed up by a sound land-grant college program and a progressive group of industries ready to provide the goods and services the farmer needs for peak efficiency in his production and marketing endeavor," he concluded.

Dr. R. L. Beacher, Southeastern regional director of the National Plant Food Institute, told the group that soil testing can be a useful sales tool because it helps the farmer to see clearly the needs of his own soil, and builds up his confidence that he will profit from his investment in fertilizer. Barriers to fertilizer use, such as lack of money, fear of weather risks and harmful effects are of relatively little significance if farmers are convinced of the need and are reasonably assured of a not-too-distant profit, he said.

"A majority of farmers are confused—by what they read in magazine articles and advertising, by some experiment station publications, what they see in poor demonstrations or improper trials on their own fields, and most often by what they hear through the different opinions of other farmers, fertilizer dealers and salesmen, and occasionally even some county agents and research workers," Dr. Beacher went on. "Some degree of confusion is to be expected with all the variables involved in application of any agricultural practice. But regarding fertilizer practices, soil testing provides a positive means to help clarify this confusion in the minds of farmers and others. When handled in strict supervision of the agencies who are in the best position to provide consistent recommendations, soil testing is the most effective common denominator to apply to the 'confusion' barrier."

"Farmers' confidence in profit from fertilizer use can be generated with informational materials and other effective mass media techniques. But the real clincher to confidence is the farmer's actual experience on his own or a nearby field—a supervised demonstration or a simple field trial on his own. Successful results can be assured only if the trial involves a sound treatment to compare with the normal practice. And one cannot afford to guess at what might be a sound treatment, simply because it worked on a similar-looking soil or a similar crop."

"Many demonstrations have been

MEETING

(Continued from page 1)

laid out this way and misled numerous would-be fertilizer users. Soil tests, correlated with controlled research results, provide a basis for setting up successful demonstrations and field trials that will build confidence.

"There is ample evidence to indicate that soil test recommendations, from accredited agencies, provide the farmer with a convincing tool to present his banker in obtaining fertilizer loans. Confidence in the farmer's mind breeds confidence in his creditor's mind."

"It is quite easy to see the values of soil testing as a beneficial tool for fertilizer sales. But at the same time it can be an equally dangerous tool that can add to confusion, if improperly handled for exploitive purposes. Any soil test operations which promote 'shaded' recommendations not only destroy themselves but also undermine farmers' confidence in other soil testing services which might be soundly administered."

"It behooves us in the fertilizer industry to make an all-out effort to encourage every farmer to take advantage of his local agricultural college soil test service. Rather than undersell fertilizer on the basis of price, we should sell on the basis of the profit a farmer can realize by using fertilizer in accordance with his soil test needs, as recommended by the reliable labs and research of our colleges. The successes of the concentrated soil fertility promotion campaigns in Georgia and other states should be sufficient stimulant for any far-sighted and aggressive fertilizer sales force."

Dr. M. S. Williams, chief agricultural economist of NPFI, reviewed some of the results of recent surveys made by the institute, indicating from them that the fertilizer salesman needs to know more about his farmer customers. The farmer, as a businessman, looks for ways to increase his production at less cost.

The farmer buys fertilizer in two ways, Dr. Williams said. One is by sitting down and thinking how fertilizer will help him reach his goals. The other way is that he buys fertilizer because subconsciously he thinks it will help him reach certain goals. "In other words, he buys it on the basis of thinking and on the basis of emotion. If we ignore that the human is an emotional as well as a rational being, then we will have difficulty in understanding our customers," he said.

"Like the rest of us, farmers like to think they make up their own minds and they do. Yet, they generally turn to someone else for help in making decisions. They rely heavily on personal contacts for information and help. For fertilizer information they turn to local fertilizer dealers, neighbors and friends, county agents, the Soil Conservation Service, and others such as vo-ag teachers and bankers. The most important individuals appear to be the fertilizer dealer, neighbors and county agents."

"In the Southeast using fertilizer is 'socially acceptable.' Very few farmers here would try to farm without fertilizer. However, there are many farmers that have not yet accepted the idea that fertilizer used at the recommended rates will help them achieve their goals. Until our customers accept the use of fertilizer on all crops at the optimum rate as being the thing to do, we will not realize the full potential of the fertilizer market in the Southeast," Dr. Williams concluded.

E. K. Chandler, area representative of NPFI, told the group, "The farmer needs your product because it will make him money." He pointed out



ON DISPLAY—N. H. Causey (left) and J. M. Landrum, U.S. Department of Agriculture plant pest control officials, point to the shaded portions of a Memphis city map that shows areas which have been treated for white-fringed beetle control. The map is posted on the wall of their headquarters and the public is invited to inspect it. Reports in a local newspaper often hint that areas to be sprayed are kept secret.

that farmers will continue in a price-cost squeeze until they discover the importance of efficient use of fertilizer. Inefficient farmers, he said, have already learned about the law of diminishing returns and the law of the survival of the most efficient. "Those who wish to survive must utilize every tool available to reduce production costs, increase yields and provide a quality product," he said.

Mr. Chandler illustrated by citing the cotton industry. "On 17½ million acres, we produce about 6 billion pounds, with an average profit of \$10.17 an acre, which equals a total profit of \$179 million on all acres. By switching to recommended production practices, we can grow, on 10½ million acres, a little less cotton (5½ billion lb.) and realize \$46.80 an acre, or on all acres, a profit of \$487 million.

"This illustrates efficient production and more profit to the acre, but there is another benefit here, in that the over-all economic picture is healthy for all and the surplus is also lowered.

"Other benefits of a high soil fertility level include continued high production year in and year out, that is, if weather conditions are not favorable every year, the plant food will be available to boost production the following year. This adds to the long-pull profit picture. There is also the benefit that adequate fertilization promotes more efficient water utilization."

George M. Beal and Joe Bohlen, department of economics and sociology, Iowa State University, presented their flannel board discussion on how farm people accept new ideas. Their talk, described as a progress report in a continuing study, showed that new ideas and practices on the part of farmers are as a rule arrived at through several stages. First becoming aware of the new idea, the farmer then finds out more about it, evaluates it in the light of his own situation, then tries it out. If it shows sufficient promise for labor-saving or better income, he will adopt it.

Farmers differ in the speed with which these stages are reached. They were divided into several groups by Drs. Beal and Bohlen as "innovators," the first to adopt a new idea; "early adopters," those who are behind the innovators but ahead of the trailing groups characterized as the "early majority," the "majority" and the "nonadopters."

Innovators comprise the smallest numerical group, with early adopters and early majority groups being a little more numerous. The bulk of farmers, according to the report, lie in the categories of "majority" and "non-adopters."

104 California Firms Producing Chemicals During 1958 Period

SAN FRANCISCO—There were an estimated 104 firms in California producing agricultural chemicals between July 1 and Sept. 30, 1958, and they employed an average of 2,800 persons during that period, according to the division of research and statistics of the California State Departments of Employment. Total quarterly earnings were found to be \$3,936,989.

The change from the same period of 1957 cannot be measured because of changes in the classification of firms in the industry at the beginning of 1958.

The over-all trend in the entire chemical industry was down between the two years. During the slump of 1958, the number of chemical manufacturing firms dropped from an estimated 1,097 during the summer of 1957 to 1,035 a year later, and employment from around 41,700 to about 38,300. Total quarterly earnings between the two summers dropped from \$59,500,457 to \$57,212,127.

NITROGEN

(Continued from page 1)

a ton was to be added until the regular price of \$68 is reached, to continue in January-June, 1960.

"The nitrogen industry hopes that the off-season pricing practice will encourage greater movement of material in the late summer and autumn and relieve some of the pressure caused by excessive spring demands. Some of the other nitrogenous materials also carry varying discounts.

"The 1959 outlook for potash is favorable. Deliveries in the first half year were running about 5% ahead of those in 1958. Imports of potash were up slightly in the first part of 1959, whereas exports showed even greater improvement compared with 1958 levels. However, domestic potash producers view future import prospects with some concern. Potash

from Saskatchewan, Canada, will soon be entering the U.S.

"Furthermore, some sources believe that European potash, which in recent years has rarely been competitive with domestic material beyond a narrow belt along the East Coast, may reach the Midwest via the St. Lawrence Seaway. The domestic industry apparently fears most the threat of low priced potash from East Germany or the U.S.S.R. A report that Soviet potash arrived at Cleveland in May has not been confirmed."

BULLETIN ON INSECTS

COLLEGE STATION, TEXAS — A "Texas Guide for Controlling Insects on Corn, Sorghum, Small Grain and Grasses," is the title of a new publication released by the Texas Agricultural Extension Service. The insecticides to use for control of these insects are given along with the amount. Also listed are the major pests of these crops and the way to identify each.

Delaware Chemical Employment Still Climbs

WILMINGTON, DEL. — Employment in chemical manufacturing in Delaware continued its steady upward climb in August, adding 200 more workers. The employment level was estimated at 26,700, compared to 26,500 in July and 26,100 in June, according to the monthly report of the Delaware Unemployment Compensation Commission.

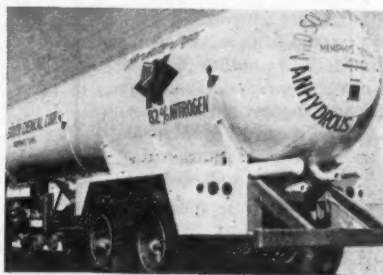
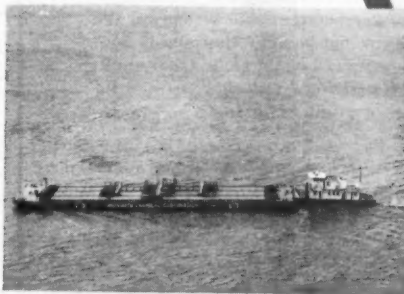
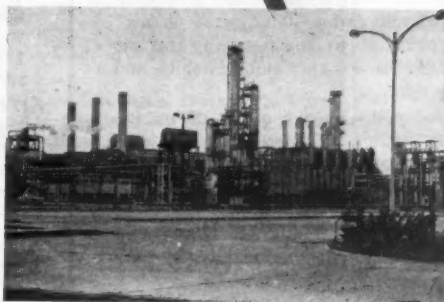
Despite the employment increase, the number of workers in the chemical industry is still 600 less than August a year ago when 27,300 were employed.

Average weekly earnings of the production worker declined between July and August from \$133.34 to \$126.07. A drop was noted in average hourly earnings, \$3.06 in August and \$3.13 in July. A decline was noted in the work week, 41.2 hours in August and 42.6 in July.



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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

Farm Income Slips During January-August, '59, Period

ESTIMATED FARM INCOME for the first three quarters of 1959 shows a reduction of about 12% from the first nine months of 1958, according to figures just released by the Agricultural Marketing Service of the U.S. Department of Agriculture. The report notes, however, that although this year's income is less than that of 1958, it is considerably better than the first three quarters of 1957.

USDA explains that its figures are estimated at an annual rate of approximately \$11.5 billion, which is \$1.6 billion lower than the first three quarters of 1958.

Naturally, the first question to be raised by the industries supplying farmers with pesticides, fertilizers, and other materials, asks what effect this lower buying power will have on purchases during the 1960 season. Perhaps a partial answer may come from a closer look at the USDA report from the standpoint of what crops are involved in losses and to what extent.

The report says that the decline so far this year resulted from lower average prices, increased expenses and, of course, discontinuance of acreage reserve payments to farmers. Smaller crops of wheat and small feed grains exerted their downward pull chiefly in the third quarter of the year. The final three months of the year will see the marketing of the much larger cotton and corn crops, however.

Cash receipts in July and August were down 7% from a year earlier, with prices averaging 4% lower and marketings down about 3%. Wheat, mentioned above as being smaller than last year's crop, was down about 24%, and in addition production expenses were figured as being up 2% from those of a year earlier.

Actually, the quarterly rate of realized net income has declined steadily since the final quarter of 1958, the report points out. The income for the third quarter of 1958 was \$14.2 billion; for the fourth quarter, \$14.1 billion; for the first quarter of 1959, \$13.2 billion and the second quarter of 1959, \$12.1 billion.

Thus, realized net income during the first half of 1959 was down 8% from the first half of 1958.

One item of particular significance to the fertilizer and pesticide trades is to the effect that farm operating costs in the third quarter ran "substantially above a year ago," but slightly lower than in the second quarter of 1959.

Prices of fertilizers and pesticides were not listed in the report, but farmers certainly cannot accuse these industries of adding very substantially to the cost of things the farmer buys.

To Stop Disease, People of New Jersey Laud Spraying

A HINT OF THE best way to turn pesticide enemies into friends has come up in connection with the current outbreak of encephalitis, or sleeping sickness, in New Jersey. Not that anyone would advocate the spread of some disease to dramatize the value of pesticides in controlling the pest causing the illness, but one cannot help observing the great switch in public acceptance of pesticidal spraying on the part of some New Jersey citizens.

An outbreak bordering on epidemic proportions has hit four counties of the Garden State bringing death to a dozen people and causing illness and death to many animals in the area. The disease, commonly known as "sleeping sickness," is spread by one and perhaps more species of mosquitoes. *Culiseta melinura* is a confirmed vector of the disease, and *Culex salinarius* is strongly suspected

of being one also. Thus, the problem is to reduce the populations of these pests as thoroughly and as quickly as possible.

But the mosquitoes live in an area where some human residents have been violently opposed to mass spraying of insecticides because of imagined harm to themselves through "poisoned" crops, contaminated milk, and other dire consequences. Would the residents allow a spray program to be conducted to wipe out the cause of encephalitis?

Reports from New Jersey indicate that not only would these people tolerate such spraying activities, but they demanded it! Some of the same signatures that earlier had been written on petitions to halt the application of pesticides, now appear in hurried scrawls on petitions to local and state governments to spray as soon as possible to get rid of these mosquitoes.

Can these be the same people who only a short time ago were threatening court action against such activities? The same householders who took potshots with real guns at low-flying spray planes? Who refused to listen to reasons why insects should be controlled to enhance public health and to prevent crop losses?

Maybe this is just another quirk of human nature. There are many of them. It is no joke, however, when people are dying from a disease connected directly to the presence of insects, and we think it is to the credit of these once-truculent New Jerseyites that they should see what must be done and insist upon it, even though they may be late in doing so.

There are some other people around the country to whom this dramatic example of the worth of pesticides should be shown. We doubt if they would be very thoroughly convinced that any good could come from applications of insecticides, but this current incident shows a glimmer of hope.

Insecticides have a key role not only in the protection of crops from destructive insects, but also in the maintenance of public health. Despite many statements to the contrary, pesticides are a boon, not a hindrance, to health.

Chemicals and Population

THAT THE CHEMICAL industry will play a major role in feeding the billions of people expected to populate our earth in another 25 or 30 years has been pointed out by numerous observers of world affairs. One of the most articulate observations of this sort was made recently by Maurice F. Crass, Jr., secretary of the Manufacturing Chemists Assn. before a New York audience.

"While it took 200,000 years for the species to number approximately 2½ billion at mid-20th century," he said, "it now seems inevitable that the 4-billion mark will be reached in another 28 years.

"Will this mean that man will multiply himself into poverty and famine or will production keep pace with need? In my opinion, history will repeat itself and the problem will be solved, thanks mostly to the chemical industry."

Mr. Crass said the day will come when man will be obliged to utilize deserts and other currently non-productive land areas in order to supply food to this swollen populace. "To do this will require not only massive fertilization and soil conditioning, but extensive irrigation as well," he said.

Mr. Crass told his audience he believes food waste will be unheard of in future years. The reason, he said, is that "chemical additives such as the antibiotics will permit unrefrigerated storage of poultry, fish and meats over extended periods of time." Irradiation can be expected to sterilize and preserve other types of food on a large scale, he added.



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is \$5 for one year (\$8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG

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MEETING MEMOS



Oct. 11-14—Annual Convention of the Farm Equipment Industry, Queen Elizabeth, Montreal, Quebec, Canada.

Oct. 30—North Dakota Fertilizer Dealers Conference, North Dakota Agricultural College, Fargo.

Dec. 10—Iowa Fertilizer Promotion Workshop, Savery Hotel, Des Moines, Iowa.

1960

Jan. 25-26—Second Annual Agricultural Pesticide Conference, Purdue University, Lafayette, Ind.

Meeting Memos listed above are being listed in this department this week for the first time.

Oct. 7-8—Symposium on Research Progress on Insect Resistance, Mayflower Hotel, Washington.

Oct. 12-14—Association of Official Agricultural Chemists, annual meeting, Shoreham Hotel, Washington, D.C.

Oct. 13-14—Western Agricultural Chemicals Assn., fall meeting, Villa Motel, San Mateo, Cal., C. O. Barnard, executive secretary.

Oct. 14-16—Pacific Northwest Plant Food Assn. Annual Convention, Chinoook Hotel, Yakima, Wash.

Oct. 15—NPF Conference on Chemical Control Problems, Shoreham Hotel, Washington, D.C.

Oct. 16—Association of American

Fertilizer Control Officials, Shoreham Hotel, Washington, D.C.

Oct. 16-17—American Pesticide Control Officials, annual meeting, Shoreham Hotel, Washington, D.C.

Oct. 19-23—Fertilizer Section, National Safety Council, annual meeting, Chicago.

Oct. 21-23—National Agricultural Chemicals Assn., 26th annual meeting, French Lick-Sheraton Hotel, French Lick, Ind., Lea S. Hitchner, executive secretary.

Oct. 27—Seventh Annual Grassland Farming Conference, Extension Service, Rutgers University College of Agriculture, New Brunswick, N.J.

Oct. 29-30—Far West Safety School, Hacienda Motel, Fresno, Cal.

Oct. 29-30—Eastern Branch, Entomological Society of America, Chalfonte-Haddon Hotel, Atlantic City, N.J.

Nov. 3-4—Michigan Insecticide-Fungicide Conference, Michigan State University, East Lansing, Mich.

Nov. 4-5—Fifth Annual Oklahoma Fertilizer Dealers and Crops and Soils Conference, Stillwater, Okla.

Nov. 4-6—Fertilizer Industry Round Table, Mayflower Hotel, Washington, D.C. Dr. Vincent Sauchelli, National Plant Food Institute, chairman.

Nov. 8-10—National Fertilizer Solutions Assn., Annual Convention, Statler Hilton Hotel, St. Louis; Muriel F. Collie, 2217 Tribune Tower, Chicago 11, executive secretary.

Nov. 9—South Carolina Plant Food Educational Society annual meeting, Clemson House, Clemson, S.C.

Nov. 9-11—California Fertilizer Assn., 36th annual convention, Fairmont Hotel, San Francisco.

Nov. 12-13—Southwest Fertilizer Safety School, Tropicana Motor Hotel, Pasadena, Texas.

Nov. 16-20—National Aviation Trades Assn., 20th annual convention, New Orleans, La.

Nov. 17-20—Packaging Machinery Manufacturers Institute Show of 1959, The Coliseum, New York City.

Nov. 30-Dec. 4—27th Exposition of Chemical Industries, New York Coliseum, New York City.

Nov. 30-Dec. 5—Joint meeting, Entomological Society of Ontario; Entomological Society of Canada and Entomological Society of America,

Hotel Sheraton-Cadillac, Detroit, Mich.

Dec. 1-2—Annual meeting, Carolinas-Virginia Pesticide Formulators Assn., Carolina Hotel, Pinehurst, N.C.

Dec. 2-3—Annual Missouri Fertilizer Conference, Columbia, Mo.

Dec. 7-10—Central Canada and North Central Weed Control Conferences, Royal Alexandra Hotel, Winnipeg, Manitoba, Can.

Dec. 9-11—International Crop Protection and Pest Control Exhibition, Seymour Hall, St. Marylebone, London, England.

Dec. 10-11—Annual Arkansas Plant Food Conference, Little Rock, Ark.

1960

Jan. 5-6—Annual Texas Fertilizer Conference, College Station, Texas.

Jan. 6-8—14th Annual Meeting, Northeastern Weed Control Conference, Hotel New Yorker, New York City.

Jan. 13-15—Ninth Annual Convention, Agricultural Ammonia Institute, Statler Hilton Hotel, Dallas, Texas.

Jan. 14-16—10th Annual Convention of the Agricultural Aircraft Assn., El Mirador Hotel, Palm Springs, Cal.

Jan. 20-21—North West Agricultural Chemicals Industry Conference, Benson Hotel, Portland, Ore., C. O. Barnard, executive secretary.

Jan. 20-22—Thirteenth Annual Southern Weed Conference, Buena Vista Hotel, Biloxi, Miss.

Jan. 25-27—Cotton States Branch, Entomological Society of America, DeSoto Hotel, Savannah, Ga.

Jan. 27-29—Symposium on Chemistry of Phosphate-Soil Reactions, Muscle Shoals, Ala.

Jan. 28-29—Annual meeting of the Colorado Agricultural Chemicals Assn., Cosmopolitan Hotel, Denver, Colo.

Feb. 8-9—Southwestern Branch, Entomological Society of America, Hilton Hotel, El Paso, Texas.

Feb. 11-12—Midwest Agronomists-Fertilizer Industry meeting, Edgewater Beach Hotel, Chicago, Ill.

March 23-25—North Central Branch, Entomological Society of America, Schroeder Hotel, Milwaukee, Wis.

June 13-18—National Plant Food Institute annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 27-29—Pacific Branch, Entomo-

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$3.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of \$11 per column inch.

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logical Society of America, Davenport Hotel, Spokane, Wash.

July 13-15—Eleventh Annual Fertilizer Conference of the Pacific Northwest, Hotel Utah, Salt Lake City; B. R. Bertramson, State College of Washington, Pullman, Wash., chairman.

July 27-29—Great Plains Agricultural Council, 1960 meeting, Laramie, Wyo.

SOILS PROGRAM

NEWARK, DEL.—“Crop Improvement Through Better Fertilization” will be the theme of this year's crops and soils program, Nov. 23-24, put on each year by the Delaware Crop Improvement Assn. A planning meeting was held in the State Board of Agriculture Building, Dover, by officers and advisory committee members, Sept. 16. The group agreed that the Farm-City Week banquet will be held Monday evening, Nov. 23. The short course on fertilizer will be held the following day and the awards banquet Tuesday evening. The State Crops Show will be underway both days. The affair will be held at the Capital Grange Hall, Dover.

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